WEST VIRGINIA ECONOMIC OUTLOOK 2008

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West Virginia Economic Outlook 2008

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Executive Summary

The West Virginia economy continued to expand through the first half of 2007, but at a significantly slower rate than the previous year. Indeed, according to preliminary estimates, the state added just 4,700 jobs during the second quarter of 2006 to second quarter of 2007 period. That's well down from the 8,600 jobs added during the mid-2005 to mid-2006 period. Personal income growth also decelerated during the past four quarters.

The goods-producing sector (sum of mining, construction, and manufacturing) lost 1,000 jobs during the past year, while the service-providing sectors combined to generate 5,700 net new jobs. Job losses in the goods-producing sector were driven by losses in manufacturing (-1,500), as construction employment was flat and natural resources and mining rose by just 500 jobs. Growth decelerated significantly in construction during the last year, as the state has begun to feel the effects of the housing correction. Job growth in natural resources and mining also decelerated during the last year, as coal production and employment respond to slowing national growth, rising costs, regulatory uncertainty, and increasingly challenging geologic conditions.

Manufacturing employment continued to decline during the past four quarters, with job losses concentrated in durable goods, although nondurable manufacturing jobs declined as well. Manufacturing job losses are related in part to slowing national growth as well as intense competitive pressure from rivals around the country and around the world.

West Virginia's inflation-adjusted personal income growth hit 2.8 percent during the second quarter of 2006 to second quarter 2007 period. That's below the pace of the previous four-quarter period (3.1 percent). West Virginia's personal income growth during the past year fell short of the national rate (3.9 percent).

West Virginia's per capita personal income hit $27,897 in 2006, while national income per capita was $36,276. West Virginia posted an average annual income growth rate of 4.1 percent since 2000. West Virginia's per capita income growth exceeded the national average during the decade so far (3.3 percent per year), which implies that the state has made progress in closing the income gap with the nation. The per capita personal income gap has indeed fallen from 26.6 percent in 2000 to 23.4 percent in 2005 and again to 23.1 percent in 2006.

The outlook for the state economy calls for sustained growth during the next five years, assuming the national economy avoids recession. However, the state forecast calls for modest growth during the next year, as the national economy slows in response to the housing correction. The forecast calls for the state to add only 2,600 jobs (on an annual average basis) from 2006 to 2007. This is dangerously close to no growth and suggests that the state will flirt with recession during the next year. Table 1 below summarizes the outlook for the major macroeconomic indicators of state performance.

Job growth in the goods-producing sector of the state economy is expected to decelerate significantly. Job gains in natural resources and mining slow as coal mining activity in the state stabilizes in the neighborhood of current levels. The forecast calls for coal mining jobs remain between 19,000 and 18,000 during the next five years. Coal production is forecast to remain in the 150-153 millon ton per year range during the next five years.

TABLE 1
W.VA. AND U.S. ECONOMIC GROWTH

	West Virginia				Average Annual Growth Rates			
	Actual		Forecast		2001-2006		2007-2012	
	2001	2006	2007	2012	W.Va.	U.S.	W.Va.	U.S.
Jobs (000s)*	685.1	704.7	707.3	732.1	0.6	0.7	0.7	1.1
Real Per Capita Income ($2000)	22,783	24,475	25,092	27,791	1.4	1.3	2.1	2.4
Population (000s)	1,801	1,818	1,823	1,838	0.2	1.0	0.2	0.9
Unemployment Rate** (Percent)	5.2	5.0	4.5	4.4	-0.1	-0.0	-0.0	-0.0

*Covered by unemployment insurance for West Virginia. Nonfarm payroll for U.S.
**Growth rate is average annual change.

While coal remains the largest component of natural resources and mining, the oil and natural gas sector is expected to add jobs at a faster rate. This reflects increased production and exploration activity in the state during the forecast, with the investments planned by Chesapeake Energy, among others.

The outlook for construction calls for employment to stabilize at a high level, between 40,000 and 41,000 jobs. Stability in construction employment is driven by declining residential activity in the state, which reflects the national housing correction. This correction is expected to be concentrated in the Eastern Panhandle counties, which have experienced the strongest gains in activity during the decade so far.

Manufacturing continues to lose jobs during the forecast, although at a slower rate than during the previous five years. Most of the job losses are expected in primary metals (primarily steel), chemicals, and glass products. The forecast calls for job gains in transportation equipment, a sector which includes aircraft production, autos and auto parts, and defense munitions, as well as plastic products. Wood products and furniture, fabricated metals, and food products jobs are expected to stabilize around current levels.

As usual, the service-providing sectors drive net employment gains during the forecast. The largest job gains are expected to come in health care, leisure and hospitality, and professional and business services. These three sectors combine to add an expected 3,900 jobs per year during the forecast. Government; trade, transportation, and utilities; and financial activities also add jobs during the next five years, although at slower rates.

Continued job growth sets the stage for continued inflation-adjusted wage growth during the next five years. This, in turn, contributes to growth in personal income, which is forecast to average 2.1 percent per year, below the national rate of 2.4 percent per year, but above the average growth during the last five years (1.4 percent). The expected growth rate difference between the state and the nation implies that the per capita personal income gap is forecast to rise during the next five years. Indeed, the forecast calls for the gap to increase from 23.1 percent in 2006 to 24.8 percent by 2012.

Income and job growth contribute to population growth during the next five years. The forecast calls for the state to add 3,000 residents per year, which translates into an average annual growth

rate of 0.2 percent. This is slightly above average growth so far this decade (0.1 percent per year) but is well below the national rate of growth of 0.9 percent.

West Virginia's population gains during the forecast are driven by modest net in-migration, because the state's rate of natural increase remains negative. Population stability during the forecast implies a continued, gradual aging in place of the state's residents. The implications of this are the population losses in the younger age groups (birth-17 and 18-44) and population gains in the older age groups (45-64 and 65 and older), as Figure 8 shows. The 65-and-older age group is forecast to grow the fastest during the next five years, particularly after 2010, as baby boomers begin to reach age 65.

West Virginia's economic growth depends on the growth of our trading partners. If national economic growth decelerates significantly, this will set the stage for slower state growth as well. However, there are state specific risks to consider as well.

West Virginia depends to an unusual degree on the performance of the mining sector, especially coal mining. This sector has posted strong growth since 2003, but activity has stabilized during the last year. Further spot coal prices for Northern and Central Appalachian coal have stabilized in the neighborhood of $45/ton, which is well below the levels seen in 2004-2005. Overall, if national economic growth decelerates, that will reduce demand for energy and thus demand for coal. Further, the industry faces environmental pressure on a number of fronts, including concerns regarding clean water and air, as well as global warming.

The housing correction underway nationally remains a major concern for future economic growth. House price appreciation for the state as a whole never hit the heights experienced by the nation. This suggests that the housing correction may not hit the state as hard as the nation during the next year. However, the metropolitan areas including West Virginia's Eastern Panhandle counties (Hagerstown-Martinsburg, Washington, Winchester) posted house price appreciation far above the national average and thus are in danger of experiencing a more severe correction. Continued population, job, and income growth in these regions has the potential to moderate fallout during the next year.

The manufacturing sector remains an important part of the state economy. The baseline forecast calls for this sector to continue to post job losses during the next five years, particularly in the glass products, chemicals, and primary metals (steel) sectors. These sectors will continue to face intense competitive pressure during the forecast as well as continued high oil and natural gas prices (compared to 1990s levels). If that pressure results in the closure of one or more major operators it would generate significant job losses that would impact overall job growth in the state.

Finally, the service-providing sector of the state economy faces risks as well. The gaming sector faces increased competition from operators in Pennsylvania, as racetrack slot activity ramps up in that state. The professional and business services sector tends to be sensitive to the national business cycle, as call center activity tends to rise and fall with the overall national economy. Finally, health care activity depends in part on trends in government funding of Medicare and Medicaid. These programs are likely to account for an increasing share of government budgets during the forecast. If the funding for these programs were to be reduced, there would likely be impacts on health care employment growth.

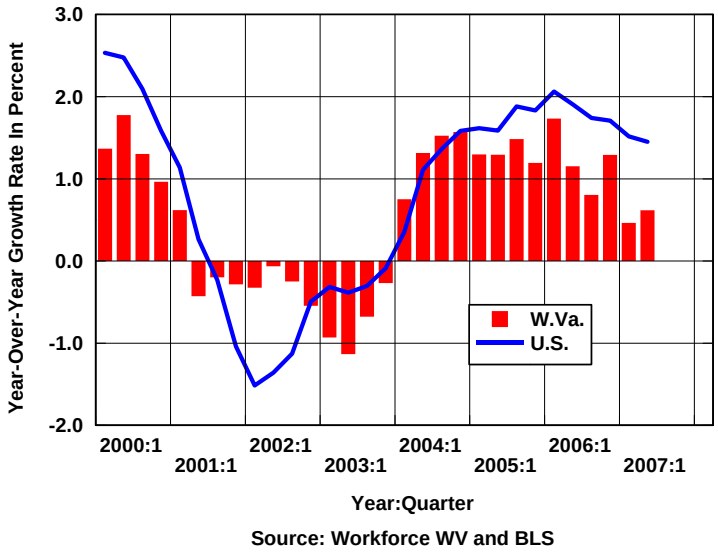
West Virginia Outlook

Recent Developments

West Virginia and U.S. Job Growth Decelerates

West Virginia's seasonally adjusted nonfarm payroll job growth has decelerated recently, with year-over-year job gains falling from 9,500 during the second quarter of 2004 to the second quarter of 2005 to 8,600 during the 2005 to 2006 period. The deceleration continued last year, as the state added just 4,700 jobs from the second quarter of 2006 to the second quarter of 2007. West Virginia's job growth rates (again on a year-to-year basis from the second quarter of the year) have slowed from 1.3 percent from 2004 to 2005, to 1.2 percent from 2005 to 2006, to 0.6 percent from 2006 to 2007, as Figure 1 shows.

FIGURE 1
W. VA. AND U.S. JOB GROWTH DECELERATION
BEGAN IN 2006



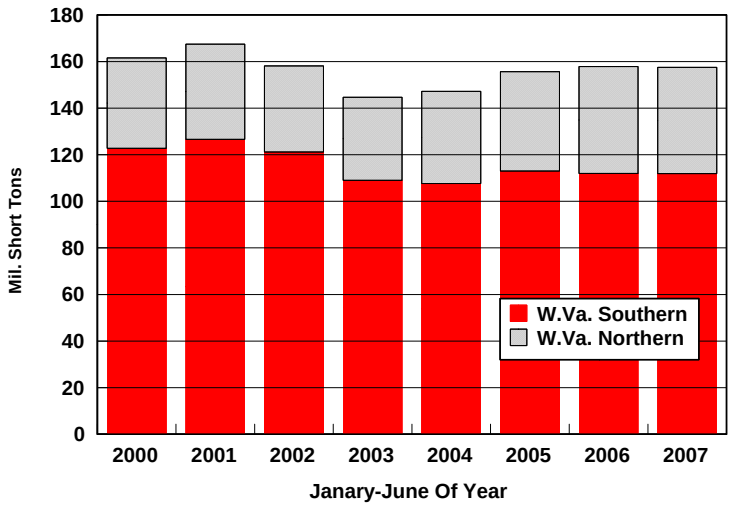
Source: Workforce WV and BLS

The strong deceleration in job growth during the past year was driven by job losses in the goods-producing sector (natural resources and mining, construction, and manufacturing). As a whole, this sector dropped 1,000 jobs from the second quarter of 2006 to the second quarter of 2007. In contrast, the service-providing sectors combined to add 5,700 jobs during the past year.

Within the goods-producing sector, job performance was weak across each of the major sectors. Job gains in natural resources and mining continued, but at a much slower pace than during the previous two years, with the sector adding 500 jobs during the past four quarters. That's a significant deceleration from job gains in the neighborhood of 2,000 per year during the previous two four quarter periods (2004-2005 and 2005-2006). The slowdown in natural resources and mining job growth likely reflects stable coal production during 2006 and into 2007.

Figure 2 depicts West Virginia coal production (according to the Energy Information Administration) during the first six months of each year for the decade so far. As the figure shows, annualized state coal production during the first half of 2007 is close to production during the first half of 2006. After a strong increase in production in the first half of 2005, activity has stabilized in the neighborhood of 156-157 million tons, at an annual rate, for the first half of 2006 and 2007. This reflects falling production in the southern coal fields (since 2005) and rising production in northern West Virginia. Also during the past year and a half, spot prices for Central Appalachian coal (which includes the state's southern coal fields) have fallen from the $60-$65 per ton range down to $45 per ton. While spot prices for Central Appalachian coal have fallen, the spot price of Northern Appalachian coal has risen from $40 per ton to $45 per ton. Increasingly challenging geologic conditions, rising costs, and falling spot prices, combined with regulatory uncertainty, are likely precursors of production decline in the southern part of the state.

FIGURE 2
W.VA. COAL PRODUCTION STABILIZES
DURING THE FIRST HALF OF 2007
JANUARY-JUNE, ANNUALIZED, NON-SEASONALLY ADJUSTED



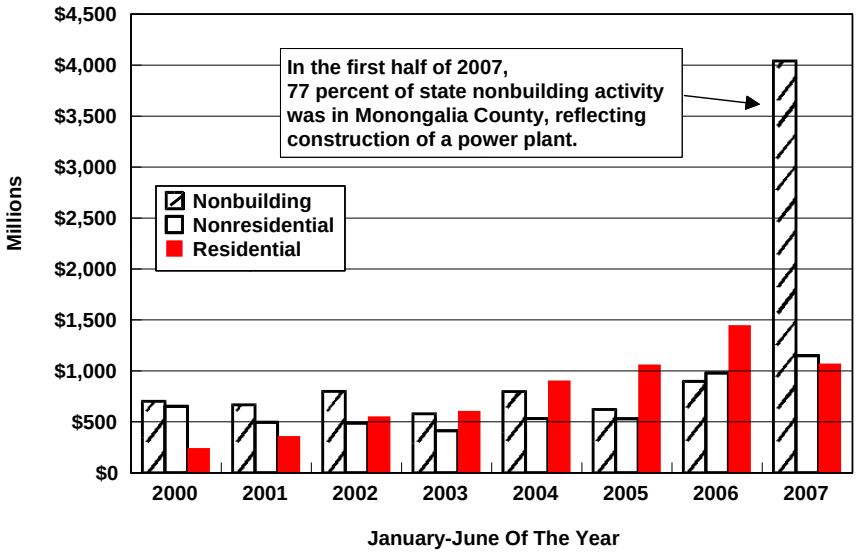
Source: Energy Information Administration

Coal production remains the dominant employment sector within natural resources and mining, but oil and natural gas extraction has recorded strong job growth so far this decade. Indeed, oil and gas extraction (including support services) has posted employment growth from 2,900 in 2001 to 4,300 in 2006. West Virginia's natural gas production has also increased during the period, rising from 181 billion cubic feet in 2001 to 209 billion cubic feet in 2005, the latest year for which data is available.

Construction job gains have also slowed during the past year, with no employment growth from the second quarter of 2006 to the same quarter in 2007. That's far below the 3,400 jobs added during the mid-2005 to mid-2006 period. The decline in construction job growth reflects lower levels of construction activity during the first half of 2007. However, as Figure 3 shows, the annualized value of construction starts in the first half of 2007 shows a huge surge, rising from $3.3 billion in the first half of 2006 to $6.3 billion in 2007. This surge is dominated by a gigantic increase in nonbuilding activity, which was caused by the initiation of power plant construction in

Monongalia County. Without the Monongalia power plant construction during the first half of 2007, the value of nonbuilding starts would have been close to it first half of 2006 level (about $900 million). Note also from Figure 3 that the value of residential starts slowed significantly during the first half of 2007, from $1.5 billion during the first half of 2006 to $1.1 billion. This reflects retrenchment on the part of builders in response to lower demand. The value of nonresidential construction starts rose again during the first half of 2007, hitting $1.2 billion. The surge in the value of construction starts during the first half of 2007 suggests that construction employment has the potential to improve growth in the future.

FIGURE 3
VALUE OF W.VA. RESIDENTIAL CONSTRUCTION STARTS
FALLS DURING THE FIRST HALF OF 2007
FW DODGE



Within the residential construction sector, West Virginia single-family house price appreciation has slowed significantly during the past four quarters, with house prices (as measured by the Office of Federal Housing Enterprise Oversight) rising just 4.4 percent from the second quarter of 2006 to the second quarter of 2007. This is much slower than the 7.5 percent house price appreciation rate posted by the state during the mid-2005 to mid-2006 period and the 9.5 percent rate during the mid-2004 to mid-2005 period. As Table 2 shows, West Virginia's decelerating house price appreciation has mirrored the national trend and the performance of our neighboring states. The national rate of house price appreciation during the past year was 3.2 percent.

The deceleration in house price appreciation was most evident in the metropolitan areas including West Virginia's Eastern Panhandle and Potomac Highlands regions. House price appreciation in the Hagerstown-Martinsburg metropolitan are dropped from 24.9 percent in 2005, to 15.7 percent in 2006, to 3.7 percent from the second quarter of 2006 to the same quarter of 2007. The pattern was similar for both the Washington and Winchester metropolitan areas, with rates of appreciation falling from the 25 percent range from 2004 to 2005, down to little or no appreciation during the past four quarters. Indeed, according to the latest estimates, house prices actually declined during the past year in the Winchester metropolitan area. Cumberland and

Morgantown had the strongest rates of house price appreciation during the past year, at 12.5 and 8.9 percent, respectively.

TABLE 2
HOUSE PRICE APPRECIATION IN WEST VIRGINIA METROPOLITAN STATISTICAL AREAS (MSA)*
OFFICE OF FEDERAL HOUSING ENTERPRISE OVERSIGHT

	Annual Percent Change			
	2003Q2-2004Q2	2004Q2-2005Q2	2005Q2-2006Q2	2006Q2-2007Q2
Charleston MSA	3.0	3.9	4.8	4.0
Cumberland MSA	6.1	11.7	17.2	12.5
Hagerstown-Martinsburg MSA	15.9	24.9	15.7	3.7
Huntington-Ashland MSA	4.1	6.5	4.5	6.2
Morgantown MSA	8.6	13.5	7.3	8.9
Parkersburg-Marietta MSA	1.9	8.0	4.7	2.3
Wash.-Arl.-Alex. MSA	17.6	26.7	15.8	1.2
Weirton-Steubenville MSA	4.0	3.9	1.7	2.3
Wheeling MSA	7.7	1.8	5.5	3.9
Winchester MSA	17.6	27.2	16.1	-1.2
Kentucky	4.5	5.8	4.4	3.9
Maryland	16.8	23.2	16.4	4.7
Ohio	3.5	4.5	1.7	0.7
Pennsylvania	9.8	13.1	10.4	4.7
Virginia	13.2	21.3	14.3	3.7
W.Va.	5.4	9.5	7.5	4.4
U.S.	9.8	13.6	10.0	3.2

*MSAs with at least one West Virginia county.

These data cover repeat transactions on single-family detached properties for which at least two mortgages were originated and subsequently purchased by either Freddie Mac or Fannie Mae. The use of repeat transactions on the same physical property helps to control for differences in the quality of the houses comprising the sample used for statistical estimation. http://www.ofheo.gov/

The deceleration in house price appreciation is related to rising mortgage interest rates, as 30-year fixed mortgage rates rose from 5.84 percent in 2005 to 6.42 percent in 2006. It is also related to the strong home building activity across the nation during the past three years, which has increased the supply of homes dramatically.

Of the three goods-producing sectors, manufacturing has experienced by far the weakest job growth performance, losing 1,600 jobs during the past four quarters. Those job losses come on the heels of 1,200 jobs lost during the mid-2005 to mid-2006 period and 1,000 jobs lost during the previous year. The manufacturing job losses last year translate into an annual rate of loss of -2.6 percent, which is more than double the national rate of loss during the same period (-1.1 percent). Both the durable and nondurable manufacturing sectors posted job losses in West Virginia during the past year, but the losses were concentrated in durable manufacturing. The weakness in durable manufacturing job performance, in turn, was concentrated in primary metals

(primarily steel), wood products, glass products, and transportation equipment.[1] Within the nondurable sector, job losses were concentrated in chemical products and plastic products.

Manufacturing in West Virginia and nationally continues to cope with intense international competition, which sometimes results in firm closures and the loss of activity to other states in the U.S. and to other countries. If firms remain in place, the drive for productivity gains can result in employment stability combined with output growth. Thus, manufacturing remains an important sector of the state economy, accounting for 11.0 percent of state gross domestic product in 2006, even though its employment share is much smaller (at 7.8 percent in 2006). Further, the intensifying weakness in West Virginia manufacturing employment is also related to a generalized business cycle slowdown, as national growth decelerates.

While the goods-producing sector (primarily manufacturing) lost 1,000 jobs during the past four quarters, the service-providing sectors combined to add 5,700 jobs. Job growth in this sector was concentrated in trade, transportation and utilities (primarily trade employment), which added 2,000 jobs, leisure and hospitality (primarily accommodation and food service) which added 1,300 jobs, and professional and business services, which added 900 jobs. Both other services (personal services and membership organizations), which added 700 jobs, and government (primarily local government), which added 400 jobs, contributed as well. The health care sector added no jobs during the past four quarters, continuing the weak job growth performance that began in 2005.

West Virginia's Unemployment Rate Remains Close To U.S. Level

West Virginia's seasonally-adjusted unemployment rate was 4.4 percent in the second quarter of 2007, down from 4.9 percent a year earlier. The state rate remains close to the national unemployment rate, which was 4.5 percent in the second quarter of this year. However, the state also retains large numbers of residents not participating in formal labor market activities. Indeed, according to preliminary data from the Bureau of Labor Statistics for 2006, only 55.9 percent of West Virginia non-institutionalized residents age 16-and-older were either employed or if unemployed, then actively looking for work. That is far below the national average of 66.2 percent and ranks the state last in the nation.

Personal Income Growth Slows Pace

West Virginia's inflation-adjusted personal income growth hit 2.8 percent during the second quarter of 2006 to second quarter 2007 period. That's below the pace of the previous four-quarter period (3.1 percent). Overall sustained gains in personal income mask slowing growth in dividends, interest, and rent, as well as transfer income. Growth in earnings from work (wages, proprietor's income, fringe benefits, adjusted for social security taxes and commuting) accelerated during the past four quarters, rising from 1.7 percent during the mid-2005 to mid-2006 period to 2.6 percent during the past year.

West Virginia's personal income growth during the past year fell short of the national rate (3.9 percent), but the nation also posted decelerating growth in dividends, interest, and rent. National transfer income growth accelerated during the past year.

[1] BLS has reduced the industrial detail published for nonfarm payroll employment. Manufacturing employment detail discussed here comes from the Quarterly Census of Employment and Wages (ES-202). These data are less timely than the nonfarm payroll data. The latest available data are for the first quarter of 2007.

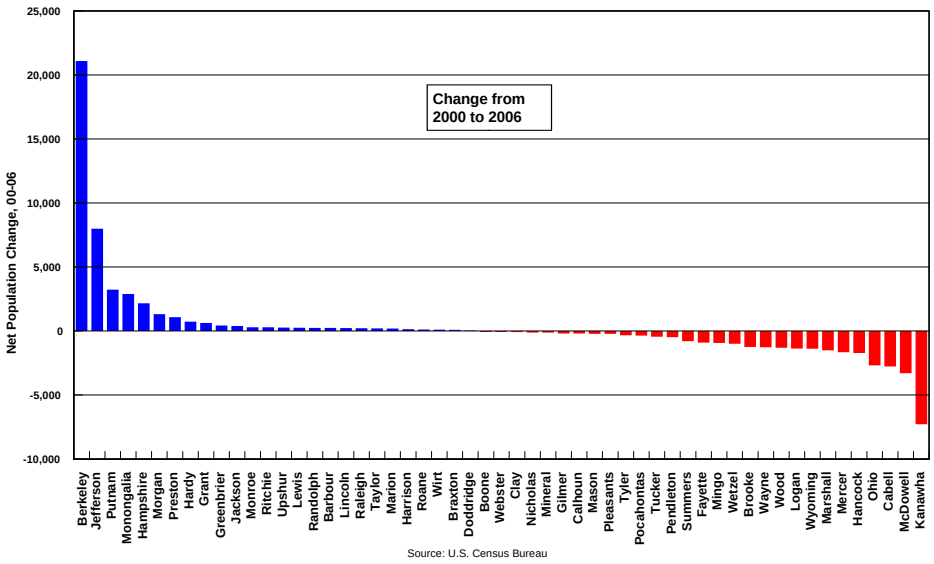
West Virginia's per capita personal income hit $27,897 in 2006, while national income per capita was $36,276. West Virginia posted an annual income growth rate of 5.6 percent over 2005 and an average annual growth rate of 4.1 percent since 2000. West Virginia's per capita income growth exceeded the national average last year (5.2 percent) and during the decade so far (3.3 percent per year). It also exceeded the national rate of inflation last year (2.8 percent) and during the past six years (2.3 percent per year). This suggests that the state's standard of living improved last year and during the decade so far. It also implies that the state has made progress in closing the income gap with the nation. The per capita personal income gap has indeed fallen from 26.6 percent in 2000 to 23.4 percent in 2005 and again to 23.1 percent in 2006.

Population Growth Remains Concentrated In Eastern Panhandle

According to the latest estimates from the Census Bureau, West Virginia added 10,942 residents from mid-2000 to mid-2006. That translates into an annual rate of growth of 0.1 percent per year, far below the national rate of 1.0 percent per year during the same period. West Virginia tends to post low rates of population growth for two reasons. First, the state remains the only state in the nation with more deaths than births each year (known as negative natural increase). This arises in part from the state's high median age, risky job mix, and low health status of many residents. Second, the state overall attracts about as many residents as it loses to other states (low net in-migration). This is related to the state's relatively slow economic growth.

Further, West Virginia's population growth has been remarkably unevenly distributed across the state. Indeed, as Figure 4 shows, the state's population growth has been dominated by gains in the Eastern Panhandle (Berkeley, Jefferson, and Morgan counties), which has added 30,400 residents so far this decade. This implies that without the Eastern Panhandle, West Virginia would have posted net population losses during the decade. The Eastern Panhandle's popularity as a migration destination is related to its connection to the Washington and Hagerstown metropolitan areas. Housing in the three Eastern Panhandle counties has tended to be relatively cheap and abundant, compared to other counties in the metropolitan area.

FIGURE 4
W.VA. NET POPULATION CHANGE BY COUNTY
2000-2006

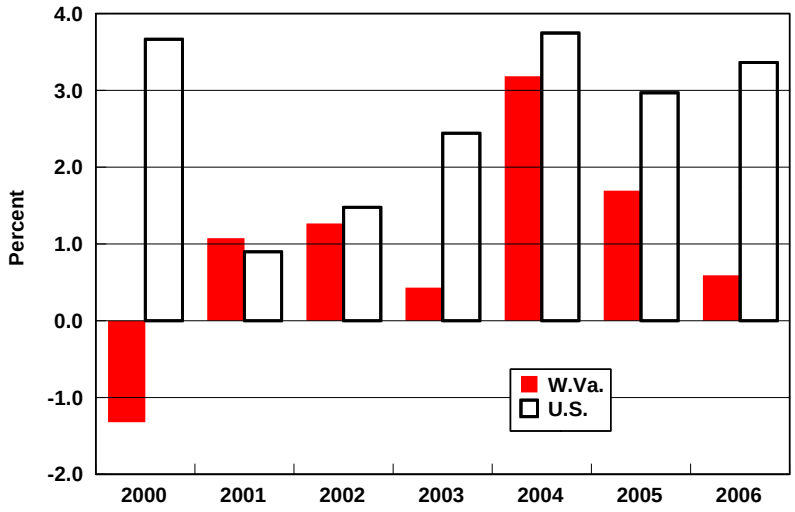


Source: U.S. Census Bureau

W.Va. Gross Domestic Product Growth Sags

West Virginia's real gross domestic product (GDP) growth sagged in 2006 to just 0.6 percent, as Figure 5 shows. The 2006 result is the second consecutive deceleration in real GDP since 2004, when state growth hit 3.2 percent. West Virginia's real GDP growth was well below the national average in 2006 (which was 3.4 percent) and the state's growth has averaged well below the national rate so far this decade (1.4 percent in West Virginia versus 2.5 percent for the U.S.).

FIGURE 5
W.VA. REAL GROSS DOMESTIC PRODUCT GROWTH
HAS BEEN SLOW COMPARED TO THE U.S.



Source: Bureau of Economic Analysis

Coal mining and manufacturing contributed significantly to slowing real GDP growth during the last two years. Indeed, according to this data, real mining gross domestic product fell by 21.8 percent last year, or by $573 million, a suspiciously large drop given that actual state coal production declined by 1.2 percent according to the latest estimates from the Energy Information Administration.

Gross domestic product by state measures the value of goods and services produced by labor and property located in a state. It is the state analog to national gross domestic product and is estimated from income payments to factors of production. It is important to remember that this measure of economic activity excludes transfer payments, which make up a large part of West Virginia's personal income and have contributed significantly to the state's income growth.

W.Va. Commodity Exports Surge During The First Half Of 2007

Economic activity in West Virginia is influenced by international economic events. This includes competitive pressure arising from imported goods and services from firms located around the world. It also includes factors that influence the competitiveness of West Virginia exports. According to data from WISER, state commodity exports have surged so far this year, reaching $1.87 billion, compared to $1.59 billion through the first six months of 2006. Most of the surge in commodity exports during the first half of 2007 arose in the four largest commodity export

sectors: chemicals, minerals and ores, transportation equipment, and primary metals. These sectors together accounted for 88.2 percent of the increase in state commodity exports.

During the first half of 2007, West Virginia's four largest commodity export destinations were Canada, Belgium, Japan, and China. The growth in commodity exports during the first half of the year was concentrated in Canada (with 39.4 percent of the increase) and in Japan, China, Brazil, Mexico, Netherlands, Germany, India, and Egypt.

Overall sustained world economic growth has contributed to the surge in West Virginia commodity exports, as has the continued depreciation of the U.S. dollar, which fell by an additional 3.3 percent from mid-2006 to mid-2007. U.S. dollar depreciation tends to make foreign produced goods and services less competitive in the U.S., while making U.S. produced goods and services more competitive abroad.

West Virginia Forecast

The West Virginia economy is not an economic island. The state depends in important ways on the growth of the national and world economies. In the same way, the forecast for West Virginia depends on a forecast for the nation and the world. The national forecast which underpins the West Virginia projections is summarized in the National Outlook section of this report.

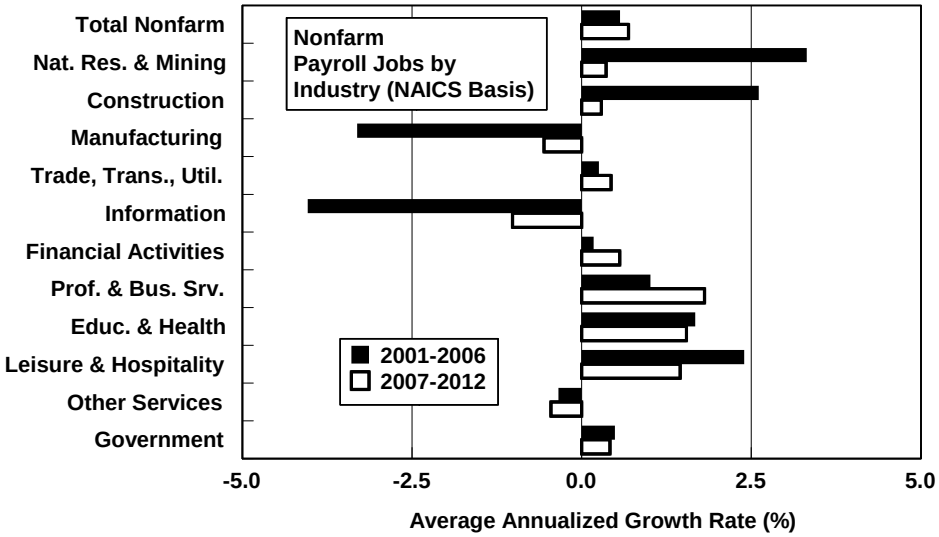
The outlook for the state economy calls for sustained growth during the next five years, assuming the national economy avoids recession. However, the state forecast calls for slow growth during the next year, as the national economy slows in response to the housing correction. The forecast calls for the state to add only 2,600 jobs (on an annual average basis) from 2006 to 2007. This is dangerously close to no growth and suggests that the state may flirt with recession during the next year. Tables 3 and 4 below provide details of the forecast.

Over the five year period, the state is forecast to average 5,000 new jobs per year, which translates into an average annual growth rate of 0.7 percent per year. As Figure 6 shows, this is slightly above the average growth rate of the previous five year period. While this is a small acceleration, it is important to keep in mind that the 2001-2006 period included an extended jobs recession. Further, the job growth rate expected for the state is well below the growth expected for the nation (at 1.1 percent per year).

As the figure shows, job growth in the goods-producing sector of the state economy is expected to decelerate significantly. Job gains in natural resources and mining slow as coal mining activity in the state stabilizes in the neighborhood of current levels. The forecast calls for coal mining jobs remain between 19,000 and 18,000 during the next five years. Coal production is forecast to remain in the 150-153 millon ton per year range during the next five years. This reflects the likely increase in demand for higher sulfur coals produced in the northern part of the state, as electric power producers continue to invest in scrubber technology. It also reflects the challenging geologic conditions and rising costs faced by coal producers in the southern part of the state.

While coal remains the largest component of natural resources and mining, the oil and natural gas sector is expected to add jobs at a faster rate. This reflects increased production and exploration activity in the state during the forecast, with the investments planned by Chesapeake Energy, among others.

FIGURE 6
W.VA. JOB GROWTH STABILIZES
DURING THE FORECAST



The outlook for construction calls for employment to stabilize at a high level, between 40,000 and 41,000 jobs. This implies that the sector decelerates from the fastest growing during the last five years to the middle of the pack. Stability in construction employment is driven by declining residential activity in the state, which reflects the national housing correction. This correction is expected to be concentrated in the Eastern Panhandle counties, which have experienced the strongest gains in activity during the decade so far. Overall, the rest of the state is expected to avoid the worst of the housing downturn underway nationally. For the state as a whole, slower residential activity is offset by continued investment in nonresidential and non-building projects. Non-building activity includes infrastructure projects and power plant construction and a large electric power production facility is underway in Monongalia County.

Manufacturing continues to lose jobs during the forecast, although at a slower rate than during the previous five years. Most of the job losses are expected in primary metals (primarily steel), chemicals, and glass products. The forecast calls for job gains in transportation equipment, a sector which includes aircraft production, autos and auto parts, and defense munitions, as well as plastic products. Wood products and furniture, fabricated metals, and food products jobs are expected to stabilize around current levels.

Overall, the manufacturing sector remains under intense competitive pressure, from producers located in the U.S. and abroad. Sustained world economic growth during the forecast, combined with continued depreciation in the value of the dollar (down another 7.9 percent from 2006-2012), helps to sustain export growth nationally and in West Virginia, which has the potential to ease a little of the pressure currently weighing on the sector.

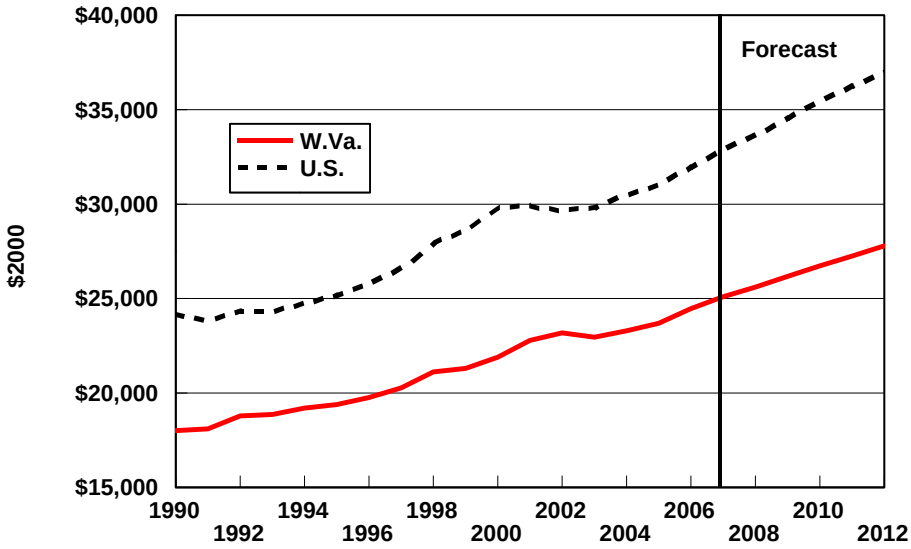
As usual, the service-providing sectors drive net employment gains during the forecast. The largest job gains are expected to come in health care, leisure and hospitality, and professional and business services. These three sectors combine to add an expected 3,900 jobs per year during the

forecast. Government; trade, transportation, and utilities; and financial activities also add jobs during the next five years, although at slower rates.

Professional and business services job growth accelerates during the forecast, but comes in below the expected national rate. This sector reflects the development of the state's high technology sectors, which tend to develop more slowly due to the state's small cities and low levels of educational attainment. Leisure and hospitality is forecast to continue to add jobs during the forecast, as hotel and restaurant activity continues to expand. The gaming sector is also expected to expand with the addition of table games at racetracks in the Northern Panhandle and the Charleston MSA. Health care job growth is expected to be near the national rate, reflecting the aging of the state's population.

Continued job growth sets the stage for continued inflation-adjusted wage growth during the next five years. This, in turn, contributes to growth in personal income, which includes earnings from work, asset income (dividends, interest, rent), and transfer income (social security, Medicare, Medicaid, welfare). As Figure 7 makes clear, West Virginia's per capita personal income is forecast to remain well below the national level during the next five years.

FIGURE 7
REAL PER CAPITA PERSONAL INCOME
W.VA. AND U.S.



The forecast calls for real per capita personal income growth in West Virginia to average 2.1 percent per year, below the national rate of 2.4 percent per year, but above the average growth during the last five years (1.4 percent). The expected growth rate difference between the state and the nation implies that the per capita personal income gap is forecast to rise during the next five years. Indeed, the forecast calls for the gap to increase from 23.1 percent in 2006 to 24.8 percent by 2012.

Overall, the forecast calls for growth in earnings from work to decelerate during the forecast, as employment growth in the goods-producing sector decelerates. Income from dividends, interest,

and rent accelerates with rising interest rates, and transfer income growth accelerates as well, likely reflecting rising payments for Medicaid and Medicare.

Earnings from work contributes the most to per capita personal income growth during the forecast, accounting for 42 percent of annual real per capita personal income increases. Transfer income is also forecast to contribute significantly to income gains, accounting for 35 percent of annual growth. Finally, asset income accounts for the remaining 23 percent of annual income increases.

Income and job growth contribute to population growth during the next five years. The forecast calls for the state to add 3,000 residents per year, which translates into an average annual growth rate of 0.2 percent. This is slightly above average growth so far this decade (0.1 percent per year) but is well below the national rate of growth of 0.9 percent.

West Virginia's population gains during the forecast are driven by modest net in-migration, because the state's rate of natural increase remains negative. Population stability during the forecast implies a continued, gradual aging in place of the state's residents. The implications of this are the population losses in the younger age groups (birth-17 and 18-44) and population gains in the older age groups (45-64 and 65 and older), as Figure 8 shows. The 65-and-older age group is forecast to grow the fastest during the next five years, particularly after 2010, as baby boomers begin to reach age 65.

FIGURE 8
W.VA. POPULATION GROWTH BY AGE GROUP

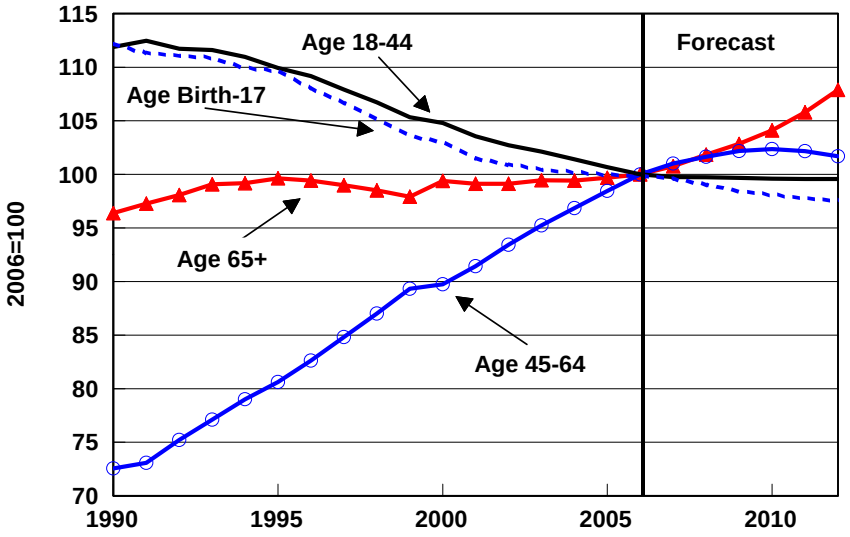


Table 3
West Virginia Employment, Labor Force, and Unemployment Rate Forecasts
(Thousands)

Indicator	Quarters* Actual	Quarters* Forecast				Years Actual	Years Forecast						Annual Growth W.Va.	Annual Growth W.Va. (%)	Annual Growth U.S. (%)
	2007:1	2007:2	2007:3	2007:4	2008:1	2006	2007	2008	2009	2010	2011	2012	2007-2012**	2007-2012**	2007-2012**
Covered Employment By Industry* **															
Total Jobs	706.3	706.6	708.0	708.3	709.4	704.7	707.3	711.5	717.9	722.8	726.9	732.1	5.0	0.7	1.1
Goods Producing	128.6	128.3	128.4	128.0	127.6	129.6	128.3	127.4	127.4	127.6	127.8	127.8	-0.1	-0.1	-0.1
Natural Res. & Mining	29.3	29.3	29.6	29.6	29.6	29.0	29.5	29.6	29.7	29.7	29.8	30.0	0.1	0.4	-3.0
Mining	27.1	27.2	27.6	27.6	27.6	26.9	27.4	27.6	27.7	27.7	27.8	28.0	0.1	0.5	-3.1
Coal Mining	18.4	18.3	18.6	18.6	18.5	18.8	18.5	18.5	18.4	18.3	18.2	18.2	-0.1	-0.3	n/a
Other Mining	8.8	8.9	9.0	9.0	9.1	8.1	8.9	9.1	9.3	9.5	9.6	9.8	0.2	1.9	n/a
Natural Resources	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	-0.0	-1.0	-2.0
Construction	39.9	40.0	39.9	39.8	39.8	39.6	39.9	39.9	40.3	40.5	40.4	40.5	0.1	0.3	0.5
Manufacturing	59.5	59.0	58.8	58.6	58.2	61.0	59.0	57.9	57.4	57.4	57.6	57.4	-0.3	-0.6	-0.3
Durable Mfg.	37.4	37.1	36.9	36.8	36.5	38.4	37.1	36.3	36.2	36.5	36.9	36.9	-0.0	-0.1	-0.1
Wood Products	10.1	10.1	10.0	9.9	9.8	10.4	10.0	9.6	9.7	10.0	10.2	10.3	0.0	0.5	-0.4
Nonmetallic Minerals	3.7	3.7	3.7	3.6	3.5	4.0	3.7	3.4	3.2	3.2	3.1	2.9	-0.1	-4.4	-0.4
Primary Metals	6.1	6.0	5.9	5.8	5.7	6.4	6.0	5.7	5.4	5.2	5.3	5.3	-0.1	-2.4	-1.8
Fabricated Metals	6.6	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.6	0.0	0.2	0.7
Trans. Equip.	5.0	5.0	5.0	5.0	5.1	5.2	5.0	5.2	5.6	5.9	6.2	6.4	0.3	5.2	1.2
Other Dur.	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.7	5.6	5.5	5.4	-0.1	-1.9	-0.8
Non-Durable Mfg.	22.0	21.9	21.9	21.8	21.7	22.6	21.9	21.6	21.2	20.9	20.7	20.5	-0.3	-1.3	-0.8
Food Products	3.8	3.8	3.8	3.8	3.8	3.7	3.8	3.9	3.9	3.9	3.9	4.0	0.0	0.9	1.0
Chemicals	10.0	9.9	9.9	9.8	9.7	10.2	9.9	9.6	9.2	9.0	8.8	8.6	-0.3	-2.9	-0.4
Plastics & Rubber	4.0	4.0	4.1	4.1	4.2	4.3	4.1	4.2	4.4	4.5	4.6	4.8	0.1	3.3	-1.3
Other Non-Dur.	4.2	4.1	4.1	4.0	4.0	4.4	4.1	3.9	3.7	3.5	3.3	3.2	-0.2	-5.0	-2.2
Service Producing	577.7	578.3	579.7	580.2	581.7	575.1	579.0	584.0	590.5	595.2	599.1	604.3	5.1	0.9	1.3
Trade, Trans., & Utilities	140.1	139.8	140.0	140.0	140.6	139.0	140.0	140.9	141.8	142.1	142.6	143.1	0.6	0.4	1.1
Wholesale Trade	25.0	25.1	25.2	25.3	25.3	25.0	25.2	25.4	25.5	25.8	26.0	26.0	0.2	0.7	1.1
Retail Trade	91.7	91.3	91.3	91.3	91.7	90.8	91.4	92.1	92.9	93.0	93.3	93.8	0.5	0.5	0.6
Utilities	6.3	6.3	6.4	6.3	6.3	6.2	6.3	6.3	6.1	6.1	6.0	5.9	-0.1	-1.2	-1.3
Transportation & Warehousing	17.2	17.1	17.1	17.1	17.2	17.0	17.1	17.2	17.3	17.3	17.3	17.3	0.0	0.2	2.8
Information	11.4	11.5	11.5	11.5	11.3	11.5	11.5	11.3	11.1	11.0	10.9	10.9	-0.1	-1.0	0.0
Financial Activities	28.6	28.7	28.8	28.8	28.9	28.7	28.7	29.0	29.2	29.3	29.4	29.6	0.2	0.6	0.9
Profess. & Business Services	60.3	61.0	61.4	61.2	61.3	59.7	61.0	61.7	63.7	65.1	65.9	66.7	1.1	1.8	2.9
Educational & Health Services	106.7	107.0	107.5	107.8	107.9	106.4	107.3	108.7	110.7	112.0	113.2	115.8	1.7	1.5	1.3
Educational Services	4.9	5.0	5.0	5.1	5.1	4.9	5.0	5.1	5.2	5.2	5.2	5.1	0.0	0.4	-0.3
Health Care & Social Assist.	101.8	102.1	102.5	102.7	102.8	101.5	102.3	103.5	105.5	106.8	108.1	110.7	1.7	1.6	1.6
Leisure & Hospitality	70.6	70.9	71.2	71.4	71.9	70.8	71.0	72.4	73.4	74.5	75.5	76.3	1.1	1.5	1.7
Other Services	21.9	22.0	21.9	21.8	21.8	21.8	21.9	21.8	21.7	21.6	21.5	21.4	-0.1	-0.5	0.2
Government	138.1	137.4	137.3	137.7	138.0	137.3	137.6	138.2	138.9	139.6	140.0	140.5	0.6	0.4	0.8
Federal Civilian	22.5	22.6	22.7	22.7	22.6	22.1	22.6	22.7	22.8	23.2	23.2	23.2	0.1	0.5	-0.2
State & Local	115.5	114.8	114.6	115.0	115.3	115.2	115.0	115.6	116.1	116.4	116.8	117.3	0.5	0.4	0.9

Indicator	Actual	Forecast				Actual	Forecast						W.Va.	W.Va. (%)	U.S. (%)
	2007:2	2007:3	2007:4	2008:1	2008:2	2006	2007	2008	2009	2010	2011	2012	2007-2012**	2007-2012**	2007-2012**
Resident Labor Force, Employment, and Unemployment Rate															
Labor Force	814.1	815.9	817.6	818.9	820.0	807.1	815.1	820.5	822.8	824.3	826.7	829.2	2.8	0.3	0.9
Employed	778.0	778.7	779.3	780.0	780.7	767.1	778.7	781.1	784.3	787.2	790.0	792.9	2.9	0.4	0.9
Unemployment Rate(%)	4.4	4.6	4.7	4.8	4.8	5.0	4.5	4.8	4.7	4.5	4.4	4.4	-0.0	-0.4	-0.2

* Quarterly data are seasonally adjusted.
**These columns contain the average yearly change during the 2007-2012 period
***With this forecast, employment is measured by covered employment (ES-202).

Table 4
West Virginia Population and Income Forecasts

Indicator	Quarters* Actual	Quarters* Forecast				Years Actual	Years Forecast						Annual Growth W.Va.	Annual Growth W.Va. (%)	Annual Growth U.S. (%)
	2006:4	2007:1	2007:2	2007:3	2008:1	2006	2007	2008	2009	2010	2011	2012	2007-2012**	2007-2012**	2007-2012**
Population (Thousands)															
Total Population	1,820	1,821	1,822	1,823	1,824	1,818	1,823	1,827	1,830	1,832	1,835	1,838	3.0	0.2	0.9
Age 0-17	389	389	388	388	387	389	388	386	384	382	381	380	-1.5	-0.4	n/a
Age 18-44	640	640	640	640	640	641	640	640	639	639	639	639	-0.2	-0.0	n/a
Age 45-64	512	513	514	515	516	509	514	518	520	521	520	518	0.7	0.1	n/a
Age 65 and up	279	280	280	281	282	279	281	284	287	290	295	301	4.0	1.4	n/a

Indicator	Actual	Forecast				Actual	Forecast						W.Va.	W.Va. (%)	U.S. (%)
	2007:2	2007:3	2007:4	2008:1	2008:2	2006	2007	2008	2009	2010	2011	2012	2007-2012**	2007-2012**	2007-2012**
Real Personal Income (Millions of 2000 Dollars)															
Total Real Income	45,521	45,848	46,104	46,425	46,673	44,506	45,740	46,783	47,885	48,972	49,985	51,070	1,066.1	2.2	3.3
Wage and Salary	21,671	21,761	21,817	21,895	21,976	21,189	21,720	22,018	22,366	22,688	23,000	23,337	323.4	1.4	2.9
Other Labor Income	6,563	6,589	6,620	6,610	6,604	6,498	6,581	6,598	6,619	6,711	6,823	6,923	68.4	1.0	2.3
Proprietors' Income	2,997	3,003	3,011	3,020	3,030	2,960	3,000	3,036	3,120	3,203	3,267	3,321	64.2	2.1	3.8
Div., Int., Rent	6,081	6,156	6,222	6,290	6,355	5,916	6,120	6,376	6,645	6,923	7,109	7,270	230.1	3.5	4.4
Transfer Income	11,580	11,712	11,810	11,975	12,063	11,265	11,693	12,103	12,456	12,768	13,113	13,546	370.5	3.0	3.5
Real Per Capita Personal Income (2000 Dollars)															
Real Per Capita Income	24,978	25,144	25,271	25,434	25,556	24,475	25,092	25,611	26,168	26,728	27,245	27,791	539.8	2.1	2.4
Wage and Salary	11,891	11,934	11,959	11,995	12,033	11,652	11,915	12,054	12,223	12,382	12,536	12,699	156.8	1.3	2.0
Other Labor Income	3,601	3,613	3,629	3,621	3,616	3,573	3,610	3,612	3,617	3,663	3,719	3,767	31.4	0.9	1.4
Proprietors' Income	1,644	1,647	1,650	1,655	1,659	1,628	1,646	1,662	1,705	1,748	1,781	1,807	32.3	1.9	2.9
Div., Int., Rent	3,337	3,376	3,410	3,446	3,480	3,254	3,357	3,490	3,631	3,779	3,875	3,956	119.8	3.3	3.5
Transfer Income	6,354	6,423	6,473	6,560	6,605	6,195	6,415	6,625	6,807	6,969	7,147	7,371	191.3	2.8	2.6

Indicator	Actual	Forecast				Actual	Forecast						W.Va.	W.Va. (%)	U.S. (%)
	2007:2	2007:3	2007:4	2008:1	2008:2	2006	2007	2008	2009	2010	2011	2012	2007-2012**	2007-2012**	2007-2012**
Coal Production (Mil. Tons)	151	151	151	152	153	152	152	153	153	152	150	151	-0.3	-0.2	2.4

* Quarterly data are seasonally adjusted.
**These columns contain the average yearly change during the 2007-2012 period.

Risks

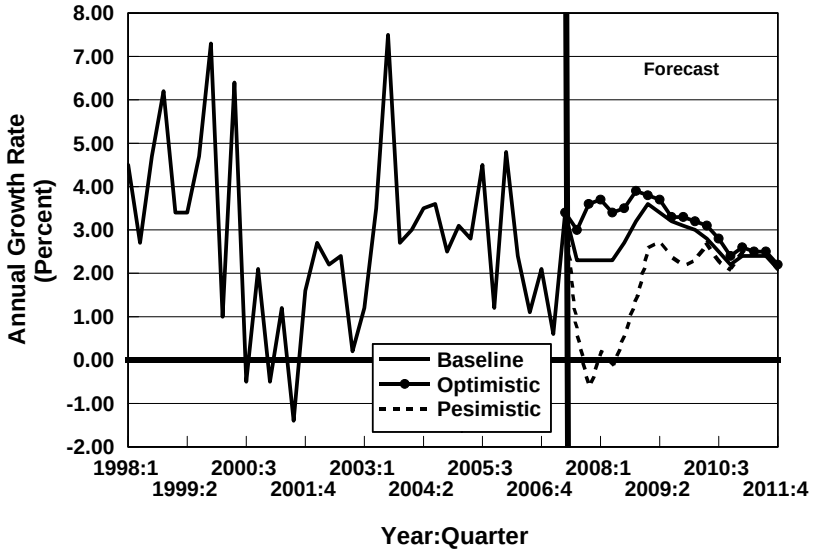
George W. Hammond, Associate Director, BBER
J. Sebastian Leguizamon, Graduate Research Assistant

The baseline forecast for the nation's economy calls for real GDP growth to slow down during the next four quarters, but no recession is expected by Global Insight. Real GDP growth is predicted to bounce back to 2.7 percent in the third quarter of 2008, and above 3.0 percent throughout 2009. Instability in the housing market is the main driver of the slowdown in GDP growth. As house prices fall and more people default on mortgage payments, there is a decrease in investment that translates into slower growth. However, economic conditions start to improve by the second half of 2008 as the nation experiences stabilizing housing markets. Additionally, a declining dollar allows other economies to import more U.S. goods as they become relatively cheaper.

However, the baseline forecast is subject to some uncertainty that may bring alternative results. With that in mind, Global Insight explores an optimistic and a pessimistic scenario that represent different results for the U.S. economy.

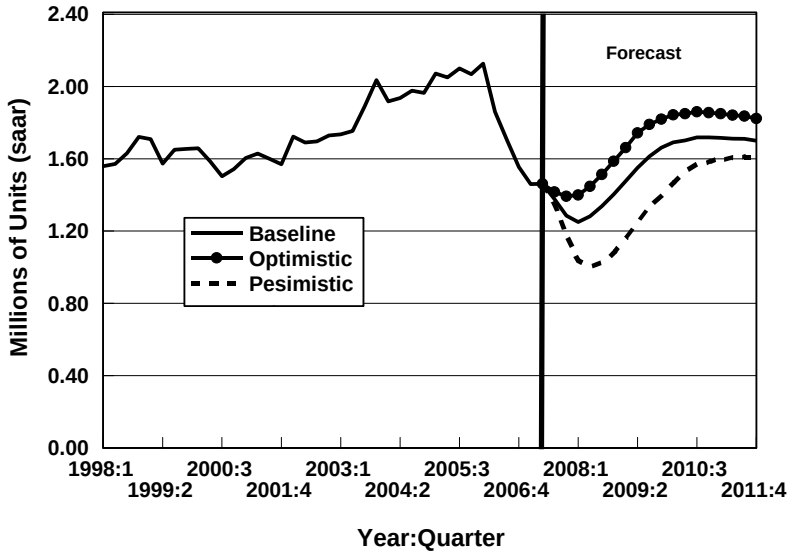
Under the optimistic scenario, summarized in Figure 9 below, the recent slowdown proves temporary, as real GDP growth rebounds to 3.6 percent by the fourth quarter of 2007, and 3.5 percent in 2008. This scenario assumes higher productivity growth than in the baseline, which boosts production and employment levels. Rising output supply puts downward pressure on prices, which translates into lower inflation and this gives the Fed more room for lower interest rates.

FIGURE 9
U.S. REAL GDP GROWTH
BASELINE AND ALTERNATIVES
FORECASTS FROM GLOBAL INSIGHT AUGUST 2007



The optimistic scenario also predicts a smaller decrease in residential investment than the baseline forecast. Lower interest rates reduce the cost of borrowing, helping the housing market to stabilize. As Figure 10 shows, new-home starts are predicted to drop to 1.39 million units by the fourth quarter of 2007 (compared to 1.25 million for the baseline), before rising back to 1.8 million by 2009 and staying around that level through the forecast. Strong business investment and oil prices that run $9.50-$10.50/barrel below the baseline levels also contribute to an overall higher growth of real GDP.

FIGURE 10
U.S. HOUSING STARTS
BASELINE AND ALTERNATIVES
FORECASTS FROM GLOBAL INSIGHT AUGUST 2007



Under pessimistic assumptions, unemployment rises four straight quarters and industrial production falls for six straight quarters. As Figure 9 shows, the U.S. economy gets close to recession as it posts negative growth in the fourth quarter of 2007 and the second quarter of 2008. This scenario assumes higher interest rates as the Fed reacts to soaring oil prices, a quicker weakening of the dollar, and tighter labor markets. A depreciating dollar and higher oil prices put upward pressures to the price level, which leads the Fed to tighten monetary policy. Both the stock and bond markets slip on signs that the Fed may have let inflation build up momentum. Fearing this accelerating inflation, the Fed keeps raising interest rates during the forecast with the federal funds rate hitting 7.0 percent in 2009.

Rising interest rates affect the housing market, hurting residential investment severely. As Figure 10 shows, in this scenario there is a much steeper decline in the number of housing starts. Residential construction is predicted to fall to 1.0 million units during the first and second quarters of 2008.

After hiking the federal funds rate in an effort to control inflation, the Fed relaxes monetary policy in early 2009. GDP growth begins to pick up as exports and investment increase. As Figure 10 shows, the housing market also reacts positively to the healthier economic conditions

and lower interest rates. Although residential construction does not catch up with the baseline throughout the forecast, it reaches 1.53 million units by 2010.

West Virginia's economic growth depends on the growth of our trading partners. If national economic growth decelerates significantly, this will set the stage for slower state growth as well. Naturally, if national growth accelerates, that raises the odds of faster state growth. These general macroeconomic risks apply to all states. However, there are state specific risks to consider as well.

West Virginia depends to an unusual degree on the performance of the mining sector, especially coal mining. This sector has posted strong growth since 2003, but activity has stabilized during the last year. Further spot coal prices for Northern and Central Appalachian coal have stabilized in the neighborhood of $45/ton, which is well below the levels seen in 2004-2005. Overall, if national economic growth decelerates, that will reduce demand for energy and thus demand for coal. Further, the industry faces environmental pressure on a number of fronts, including concerns regarding clean water and air, as well as global warming.

The housing correction underway nationally remains a major concern for future economic growth. House price appreciation for the state as a whole never hit the heights experienced by the nation. This suggests that the housing correction may not hit the state as hard as the nation during the next year. However, the metropolitan areas including West Virginia's Eastern Panhandle counties (Hagerstown-Martinsburg, Washington, Winchester) posted house price appreciation far above the national average and thus are in danger of experiencing a more severe correction. Continued population, job, and income growth in these regions has the potential to moderate fallout during the next year.

The manufacturing sector remains an important part of the state economy. The baseline forecast calls for this sector to continue to post job losses during the next five years, particularly in the glass products, chemicals, and primary metals (steel) sectors. These sectors will continue to face intense competitive pressure during the forecast as well as continued high oil and natural gas prices (compared to 1990s levels). If that pressure results in the closure of one or more major operators it would generate significant job losses that would impact overall job growth in the state.

Finally, the service-providing sector of the state economy faces risks as well. The gaming sector faces increased competition from operators in Pennsylvania, as racetrack slot activity ramps up in that state. The professional and business services sector tends to be sensitive to the national business cycle, as call center activity tends to rise and fall with the overall national economy. Finally, health care activity depends in part on trends in government funding of Medicare and Medicaid. These programs are likely to account for an increasing share of government budgets during the forecast. If the funding for these programs were to be reduced, there would likely be impacts on health care employment growth.

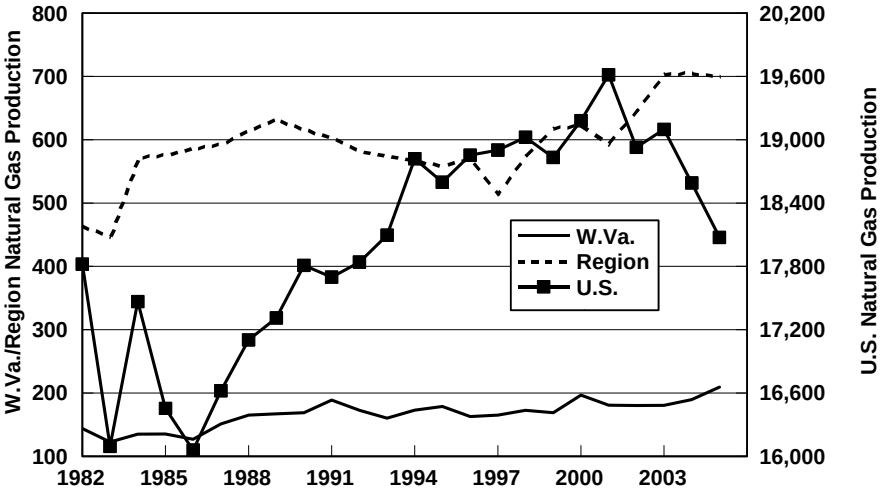
Focus On…

Recent Developments In West Virginia's Oil And Gas Extraction Industry

Excerpt from the Consensus Oil And Gas Forecast For West Virginia 2006
George W. Hammond, Associate Director, BBER
Justin Ross, Graduate Research Assistant

According to the Energy Information Administration (EIA), West Virginia stabilized around 180 billion cubic feet (Bcf) of dry natural gas production following a historical high during 2000 before finally picking up steam again in 2004 and 2005. Indeed, dry gas production in 2005 in West Virginia hit 209 Bcf. Figure 11 illustrates the production levels of dry natural gas for West Virginia and the nation. West Virginia has fluctuated between 0.8 and 1.2 percent of the nation's total dry natural gas production, with West Virginia gradually becoming a more important supplier by having a average annual growth rate 1.6 percent per year higher than the nation's from 1982 to 2005. Dry natural gas is the gas delivered to end-users (consumers and industries) after passing through processing plants and excludes gas returned to the wellhead for repressuring, various extraction and processing losses, as well as nonhydrocarbon gases that are removed during processing.

FIGURE 11
ANNUAL NATURAL GAS DRY PRODUCTION
W.VA., REGION, AND U.S.
BILLION CUBIC FEET



Data Source: EIA

Also illustrated on Figure 11 is the production level of the region encompassing states in the Illinois and Appalachian Basin. The region is demonstrated in Figure 12 and includes Indiana, Illinois, Ohio, Kentucky, Tennessee, New York, Pennsylvania, Maryland, West Virginia, and Virginia. In 2005 the region accounted for 3.9 percent of the nation's dry natural gas production. As can be seen in Table 5, West Virginia was the second largest producer in the region, behind Pennsylvania's 167.8 Bcf.

FIGURE 12
THE REGION CONSISTING OF THE ILLINOIS AND APPALACHIAN BASIN

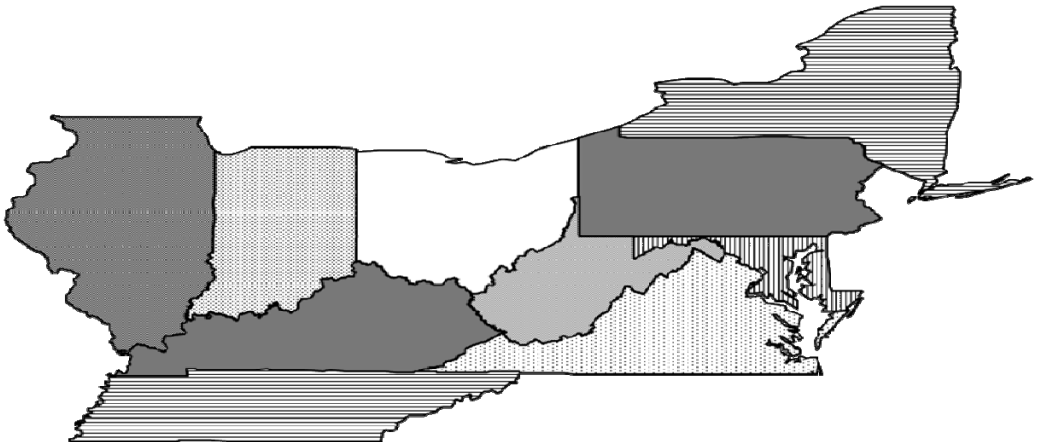


TABLE 5
OIL AND GAS STATISTICS 2005

	Wells	Dry Gas Production (MMCF)	Natural Gas Reserves (Bcf)	Employment, incl. Proprietors*	Wage & Salary Employment+	Wages Per Job	Oil Production (Thous. Barrels)
Illinois	316	120	na	7,609	751	$33,927	10,207
Indiana	2,321	3,135	na	2,152	121	$33,088	1,727
Kentucky	14,175	91,079	2,151	3,517	941	$48,535	2,535
Maryland	7	46	na	1,013	10	$38,245	na
New York	5,449	55,180	349	3,380	163	$78,623	197
Ohio	33,735	83,494	898	10,168	2,340	$78,629	5,652
Pennsylvania	46,654	167,801	2,782	6,656	1,840	$52,990	3,947
Tennessee	400	2,200	na	1,552	43	$44,844	324
Virginia	4,132	88,610	2,018	2,182	220	$67,221	8
West Virginia	49,335	209,239	4,459	6,806	1,982	$46,651	1,563
Region	156,524	700,904	12,709	45,035	8,411	$56,952	26,160
U.S.	425,303	18,074,237	204,385	339,600	125,818	$117,147	1,890,106

Data is from Bureau of Labor Statistics and Energy Information Administration.

*Includes both wage and salary jobs and sole proprietors. +includes only wage and salary jobs.

Production and Reserves represent Dry Natural Gas.

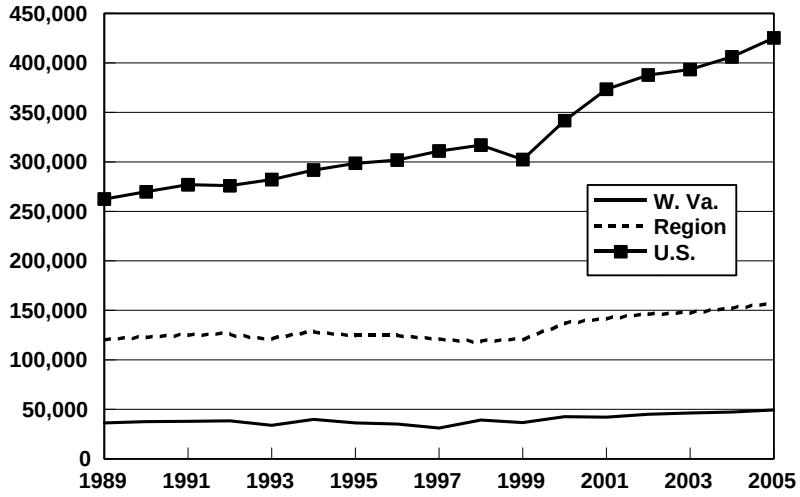
MMcf is Million Cubic Feet.

Bcf is Billion Cubic Feet.

Region statistics are estimated based on available data when state level data is not available (na).

Data from the EIA shows that the number of producing wells has remained fairly constant in West Virginia, as can be seen in Figure 13. West Virginia has accounted for an average of 12.1 percent of the nation's producing wells and 30.1 percent of the region's since 1990. West Virginia has added producing wells at an average annual rate of 1.9 percent since 1989, compared to 1.7 and 3.1 percent for the region and nation, respectively.

FIGURE 13
NUMBER OF PRODUCING WELLS

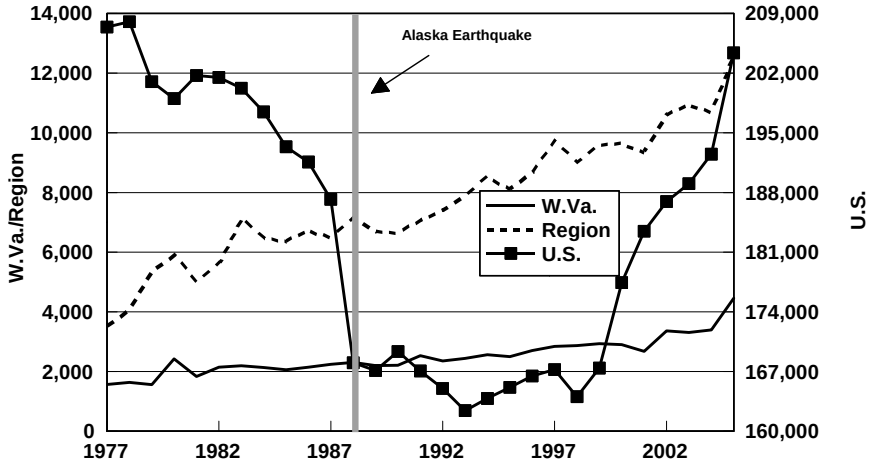


Data Source: EIA

Figure 14 shows the stock of proved reserves of dry natural gas in West Virginia, the region, and the U.S. The gray vertical line illustrates the year of the earthquake in Alaska whose devastation diminished Alaskan reserves by approximately 24 trillion cubic feet. The EIA defines proved reserves as the stock of reservoirs that are considered recoverable with reasonable certainty in future years under existing economic and engineering conditions.

West Virginia has an estimated 4.6 Tcf of proved dry natural gas reserves as of December 31, 2005 according to the EIA. This is up considerably from the 2001 level of 2.7 Tcf. Since 1977, the state has seen its reserves rise by an annual average of 3.8 percent, compared to the national rate of -0.1 percent. The nation has been growing at a much faster rate since 1998, 3.1 percent.

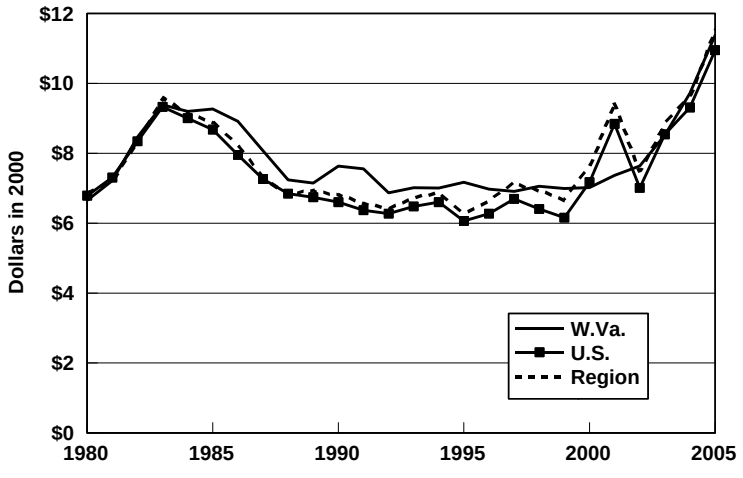
FIGURE 14
DRY NATURAL GAS RESERVES W.VA., REGION, AND U.S.
(BILLIONS OF CUBIC FEET)



Data Source: EIA

While West Virginia has had to face higher natural gas prices historically and presently, the nation is seeing prices rise at a faster rate than the state according to the EIA. In 2005, the unweighted average of residential and commercial price for natural gas was $11.33 for the state, and $10.97 for the nation, both in constant 2000 dollars. The 2005 levels are up 16.6 percent over 2004 for West Virginia and up 17.7 percent for the nation. As Figure 15 shows, average real prices in 2004 and 2005 are the highest recorded since 1980.

FIGURE 15
REAL AVERAGE END-USER* PRICE OF NATURAL GAS
W.VA., REGION, AND U.S.
PRICE PER THOUS. CUBIC FEET

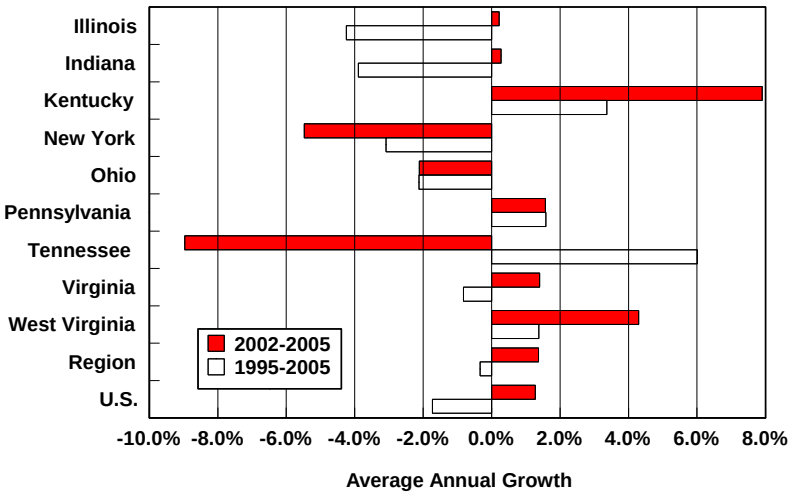


Data Source: EIA

* The average of residential and commercial price.

During the 2002-2005 period, West Virginia has recorded strong job growth in oil and gas extraction when compared to other states in the region and the nation, according to the Quarterly Census of Employment and Wages at the Bureau of Labor Statistics. This data excludes the self-employed. Employment growth in West Virginia from 1995 to 2005 averaged 1.4 percent per year, but as can be seen Figure 16, growth has accelerated during the last three years to 4.3 percent per year. West Virginia job growth in oil and gas extraction during the last three years has outpaced all states in the region except Kentucky, and has also exceeded the region average growth rate of 1.4 percent and the national growth rate of 1.3 percent.

FIGURE 16
EMPLOYMENT GROWTH OIL AND GAS EXTRACTION

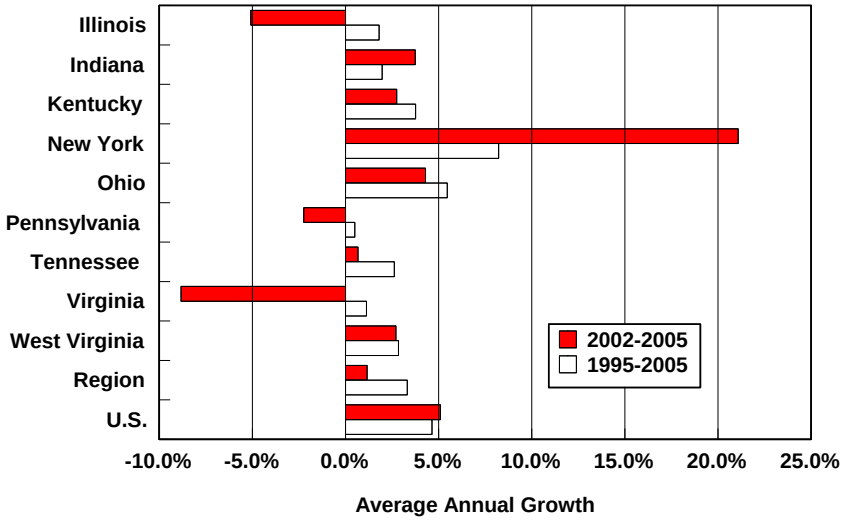


Data Source: Wage and Salary Employment,
Quarterly Census of Employment and Wages, BLS

As was seen in Table 5, both the state and the region have a lower level of wages than the national average. This is partly due to high wages in Texas, which had 52.8 percent of the nation's employment in oil and gas extraction in 2005 with an average annual wage of $139,451. Alaska, whose employment is almost a third of the size of the region has even higher annual wages with $145,374.

Figure 17 shows growth in wages after adjusting for inflation for the state, the region and the nation, also from the Quarterly Census of Employment and Wages. West Virginia's real annual wages per employee rose 2.8 percent from 1995 to 2005. Average wages for the region and nation both rose faster though, growing 3.3 and 4.6 percent during the same period. Average wages in West Virginia have been catching up to the region, however, over the last three years. The state outpaced the region with 2.7 percent growth compared to 1.2 percent in the 2002 to 2005 period. Both still lag the nation's growth of 5.1 percent.

FIGURE 17
GROWTH IN REAL WAGES PER JOB
OIL AND GAS EXTRACTION



Data Source: Quarterly Census of Employment and Wages, BLS

Table 6 shows the 10 largest firms in terms of 2004 production, according to the West Virginia Office of Oil and Gas database. Equitable Production Company and Columbia Natural Resources, LLC were the two largest producers of natural gas with 33.4 and 25.6 Bcf, respectively. These two companies also had the most actively producing wells in West Virginia. Columbia was acquired in late 2005 by one of the nation's largest producers, Chesapeake Energy Corporation.

As can be seen from the list of the nation's largest producers in Table 7, 7.2 percent of Chesapeake's natural gas production came from West Virginia in 2004 when taking this acquisition into account. Dominion, the eighth largest natural gas producer, has 5.8 percent of their production in West Virginia.

TABLE 6
TOP 10 NATURAL GAS PRODUCERS IN WEST VIRGINIA IN 2004

Firm	Permits	(Mcf)
Equitable Production Company	4,678	33,410,913
Columbia Natural Resources, LLC	4,325	25,619,318
Cabot Oil & Gas Corporation	2,424	22,131,569
Dominion Exploration & Production Inc	2,317	18,280,341
Eastern American Energy Corp	2,619	10,064,070
Penn Virginia Oil and Gas Corp	463	6,334,290
North Coast Energy Eastern	1,843	5,806,413
CDX Gas, LLC	47	5,093,738
Key Oil Company	594	3,715,387
Exploration Partners, LLC	497	3,423,108
West Virginia	47,117	197,216,685

Data Source: Office of Oil and Gas, West Virginia Department of Environmental Protection.

TABLE 7
LARGEST U.S. PRODUCERS 2004

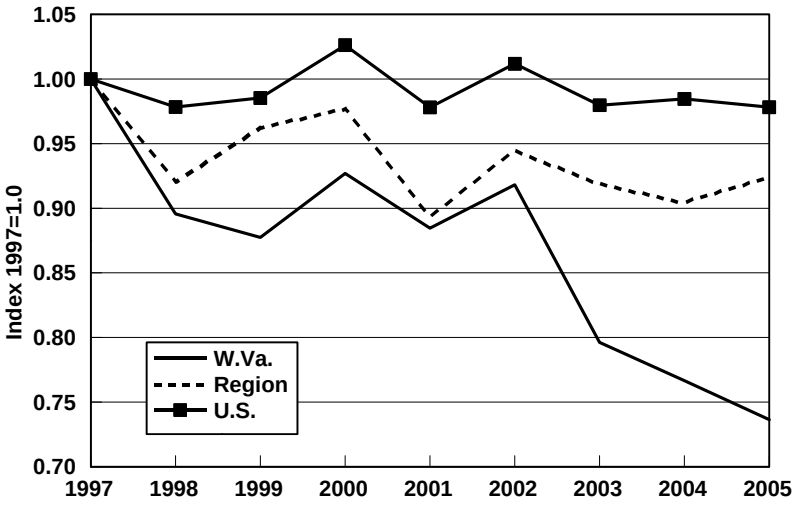
Firm	Total Production (MMcf)	Firm	Total Production (MMcf)
BP	980,025	Anadarko	521,220
ConocoPhillips	786,575	Dominion	371,205
ExxonMobil	700,070	Kerr-McGee	364,635
Chevron	661,745	Chesapeake*	355,948
Devon	594,950	EnCana	349,670

Firm total production estimated from 2004Q3 data.

* Includes production by Columbia Natural Resources, acquired by Chesapeake

According to the EIA, in 2005 West Virginia consumed 117.5 Bcf of natural gas, 28.3 percent of which went to the industrial sector, where it is used as an input in the production process. As seen in Figure 18, since 1997 the United States has remained relatively unchanged in its consumption of natural gas, while the region and especially West Virginia has declined. During the 1997 to 2005 period, West Virginia declined by an average annual rate of -3.8 percent per year. Comparatively, the region fell by -1.0 percent and the nation by -0.3 percent. While West Virginia's consumption decline was driven by cutbacks in industrial consumption and consumption of pipeline fuel and distribution use, as well as plant and lease fuel. However, it has become increasingly popular as a source of electric power, going from 516 MMcf in 2000 to 2,287 MMcf in 2005, an average annual increase of 19.0 percent.

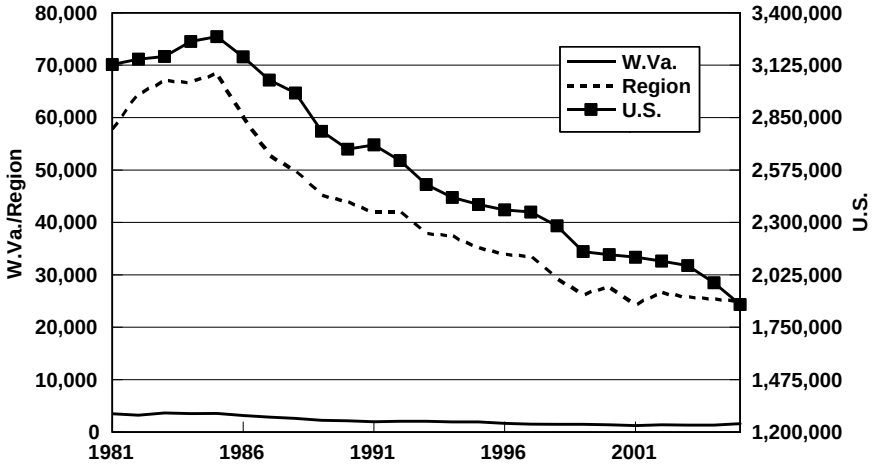
FIGURE 18
TOTAL NATURAL GAS CONSUMPTION GROWTH
FOR W.VA., REGION, AND NATION



Data Source: EIA

As can be seen in Figure 19, crude oil production has steadily declined in both the U.S. and in West Virginia since 1985, according to the EIA. Over this period, West Virginia has declined at an annual average rate of -3.9 percent whereas the region and the nation have fallen -4.9 and -2.8 percent. In 2005, West Virginia produced 1.6 million barrels of crude oil, about half of which from stripper wells (that produce less than 10 barrels per day), according to the EIA. There are only six oil producing states that had a lower level of production than West Virginia, ranking them 26th in the nation among oil producing states. Declining production is largely attributed to the fact that the easiest recoverable oil reserves among the total U.S. resources are being depleted, making imports the cheaper alternative for oil consumers.

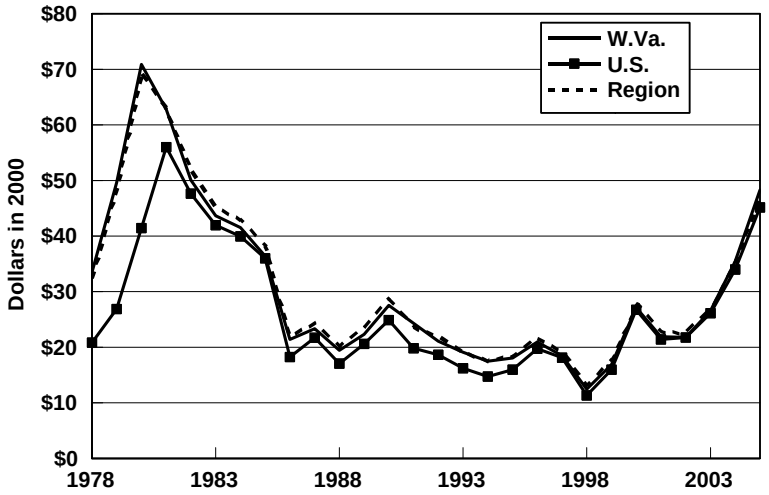
FIGURE 19
CRUDE OIL PRODUCTION W.VA., REGION, AND U.S.
THOUS. BARRELS ANNUALLY



Data Source: E.I.A.

Despite rising strongly since 1998, the real wellhead price of oil in West Virginia remains more than 30 percent lower than its all-time high in 1980. This is depicted in Figure 20, which illustrates the close relationship in price between the state, region, and nation. While not at all-time highs, prices have risen considerably since 1998, with the national price rising at the fastest average annual rate (21.8 percent). In comparison, the state fell just below the national rate, rising 21.4 percent per year during the same time span. Global Insight attributes part of this rise in prices to increasing world demand. At the same time, the EIA reports that the most easily accessible reserves of oil have been used up, causing the cost of producing to increase and drive up the market price.

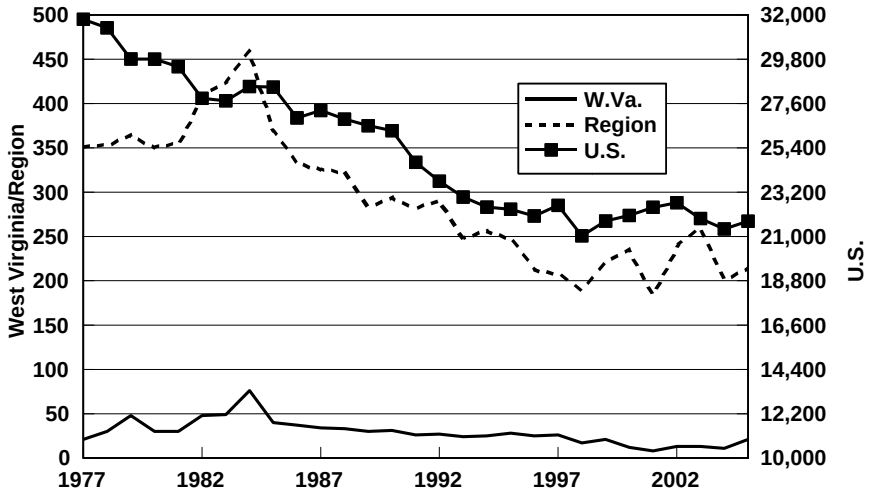
FIGURE 20
WELLHEAD PRICE OF CRUDE OIL
W.VA., REGION, AND U.S.
PER BARREL



Data Source: EIA

As Figure 21 shows, total U.S. reserves, including those offshore, have fallen by an annual average rate of -1.3 percent from 1977 to 2005. As a result, the U.S. has just two-thirds of the reserves in 2005 that it had in 1977. By contrast, West Virginia reserves surged from 21 million barrels in 1977 to 76 million barrels in 1984, before dropping back to 21 million barrels by 2005. West Virginia has accounted for roughly 10 percent of the region's reserves on average since 1977.

FIGURE 21
CRUDE OIL RESERVES
MILLION BARRELS



Data Source: EIA

Focus On…

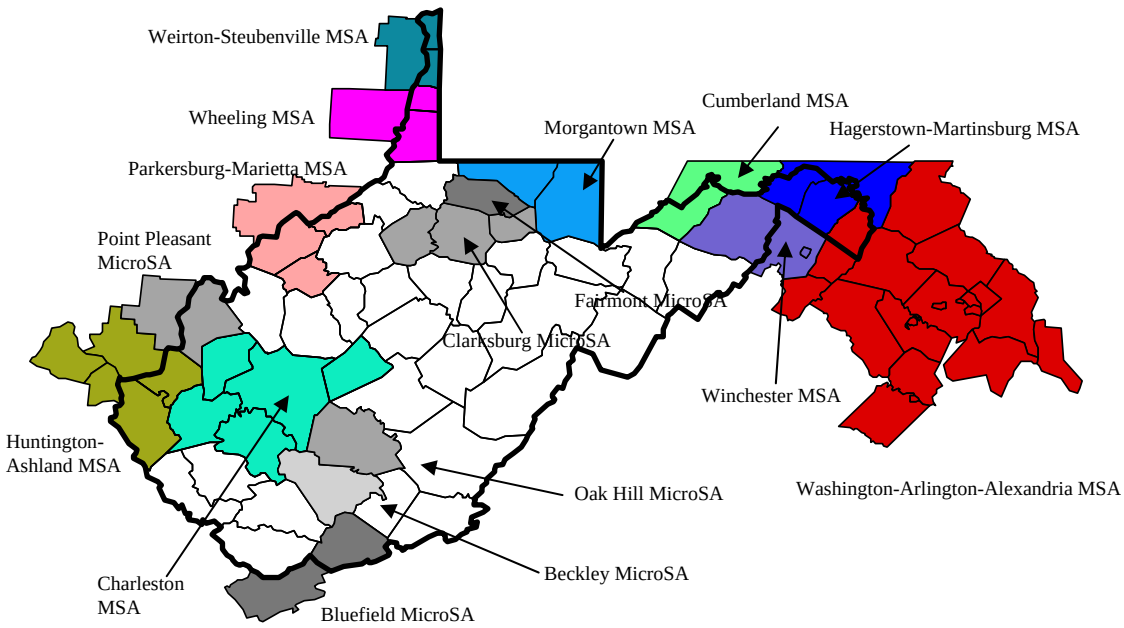
West Virginia County Performance

J. Sebastian Leguizamon, Graduate Research Assistant
With George W. Hammond, Associate Director, BBER

West Virginia is composed of many small, diverse economies. There are large differences in industrial mix across West Virginia's regional economies and thus there is much variation in economic performance. These differences are clearly evident in the major indicators of economic performance, including employment, population, educational attainment, housing prices, and personal income. We begin by comparing the growth in metropolitan statistical areas (MSAs), which are designated by the United States Office of Management and Budget. An MSA is defined by a densely populated city (or urban agglomeration) with more than 50,000 residents. Once the urbanized area is defined the county containing it becomes the core county of the MSA. Any adjacent counties with at least 25 percent of its labor force commuting to or from the core are included in the MSA designation.

As shown in Figure 22, West Virginia has 21 counties that compose or are components of ten different MSAs. Note that only two of these MSAs are completely contained within the state. The largest MSA with component counties in the state is Washington-Arlington-Alexandria, with 5,290,400 residents in 2006. The Cumberland MSA is the smallest with 99,759 residents and includes Mineral County in West Virginia.

FIGURE 22
WEST VIRGINIA'S STATISTICAL AREAS
CENSUS 2000



Source: Office of Management and Budget (OMB)

MSA Performance

The non-metro/non-micro counties in West Virginia experienced higher average annual per capita personal income growth than those metropolitan statistical areas (MSAs) that have at least one West Virginia county. Table 8 shows the key indicators of economic performance in West Virginia MSAs from 2000 to 2006. The MSAs that include West Virginia counties had an annual average per capita personal income (PCPI) growth rate of 3.8 percent between 2000 and 2005. This rate is equivalent to the state's average, and higher than the nation's 2.9 percent. However, micropolitan statistical areas (similar to MSAs but smaller in population) and non-metro/non-micro counties in West Virginia showed higher annual PCPI growth at 3.9 and 4.2 percent, respectively. As a measure of economic performance, PCPI provides better information about the quality of life of the individuals, since it adjusts total personal income to the number of individuals living in a particular area. In 2005 the PCPI for the MSAs was $43,844, significantly higher than the West Virginia and U.S. PCPI of $26,419 and $34,471, respectively. The high PCPI for the MSAs is mainly due to the Washington MSA that reached $48,697 per person, which includes the District of Columbia. The Cumberland MSA had the lowest PCPI in 2005 at $25,352.

Only four out of ten MSAs reported annual population growth from 2000 to 2006. Located in the Eastern Panhandle, and containing Berkley and Morgan counties, the Hagerstown-Martinsburg MSA reported the highest average population growth at a rate of 2.4 percent per year. As Table 8 shows, the MSAs had an annual average population growth rate of 1.3 percent between 2000 and 2006, higher than both the state's 0.1 percent and the nation's 1.0 percent. Micropolitan and non-metro/non-micro counties saw annual population losses at -0.1 and -0.3 percent, respectively.

TABLE 8
WEST VIRGINIA'S STATISTICAL AREAS

	Per Capita Personal Income		Empl.	Unempl. Rate	Population		Educ. Attain. B.A.+	Housing Prices
	Dollars 2005	Ann. Gr. % 2000-2005	Ann. Gr. % 2000-2005	Ann. Avg. % 2006	Residents 2006	Ann. Gr. % 2000-2006	% of Pop. 2000	Ann. Gr. % 2000-2006
Metropolitan Statistical Areas	**43,844**	**3.8**	**1.6**	**3.5**	**6,907,068**	**1.3**	**35.8**	**n/a**
Charleston MSA	30,703	3.4	-0.1	4.5	305,526	-0.2	17.9	3.9
Cumberland MSA	25,352	4.2	0.7	5.5	99,759	-0.3	13.4	7.2
Hagerstown-Martinsburg MSA	29,468	3.9	1.5	4.4	257,619	2.4	14.5	12.3
Huntington-Ashland MSA	25,701	3.6	0.2	5.2	285,475	-0.2	14.9	5.0
Morgantown, MSA	28,058	5.0	2.1	3.7	115,136	0.6	26.0	7.0
Parkersburg-Marietta MSA	26,811	3.1	-0.1	5.1	161,724	-0.3	14.7	4.1
Washington-Arlington-Alexandria MSA	48,697	3.7	1.9	3.1	5,290,400	1.6	42.5	15.2
Weirton - Steubenville MSA	26,287	3.3	-0.9	7.3	125,168	-0.8	12.1	4.5
Wheeling MSA	27,565	3.5	0.6	5.5	147,329	-0.6	14.6	5.2
Winchester MSA	29,873	3.2	2.1	2.8	118,932	2.3	18.3	14.0
Micropolitan Statistical Areas	**25,733**	**3.9**	**0.6**	**5.0**	**438,081**	**-0.1**	**13.1**	**n/a**
Beckley	26,980	4.5	1.2	4.5	79,302	0.0	12.7	n/a
Bluefield	25,358	3.8	-0.1	4.5	105,886	-0.2	12.7	n/a
Clarksburg	26,928	3.9	1.0	4.9	92,508	0.1	14.9	n/a
Fairmont	26,891	3.7	0.7	4.4	56,706	0.1	16.0	n/a
Oak Hill	22,584	4.4	0.4	5.7	46,610	-0.3	10.7	n/a
Point Pleasant	24,190	3.3	0.4	6.5	57,069	0.0	10.3	n/a
Non-Metro/Non-Micro Counties in W.Va.	**22,607**	**4.2**	**0.4**	**5.7**	**452,917**	**-0.3**	**10.2**	**n/a**
W.Va.	**26,419**	**3.8**	**0.5**	**4.9**	**1,818,470**	**0.1**	**14.8**	**6.2**
U.S.	**34,471**	**2.9**	**0.9**	**4.6**	**299,398,484**	**1.0**	**24.4**	**9.1**

Per capita income data is from the U.S. Bureau of Economic Analysis.
Total full & part-time employment is from the U.S. Bureau of Economic Analysis.
Unemployment rate data is from the U.S. Bureau of Labor Statistics.
Population data is from the U.S. Census Bureau.
Educational Attainment is % of the population that is 25 years and older.
Non-Metro/Non-Micro Counties in WV is calculated using data from WV Bureau of Employment Programs.

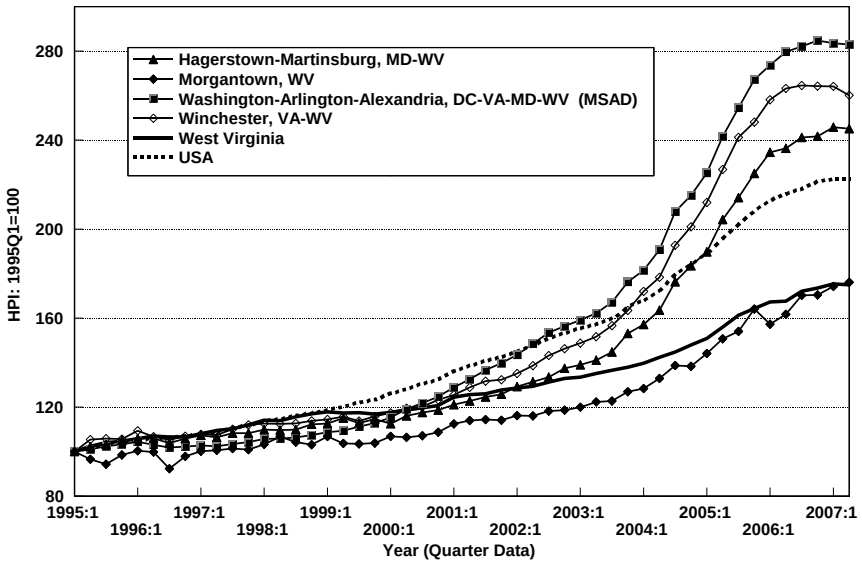
Also in Table 8, MSAs experienced lower unemployment and faster job growth than the state and the nation. MSAs unemployment rate averaged 3.5 percent during 2006, compared to the state's 4.9 percent and the nation's 4.6 percent. The highest unemployment rate in 2006 belonged to the Weirton-Steubenville MSA at a rate of 7.3 percent. The Weirton MSA also displayed negative annual job growth between 2000 and 2005 (-0.9 percent). Conversely, the Winchester MSA experienced the lowest unemployment rate at 2.8 percent in 2006, and the highest average annual job growth at 2.1 percent during the first half of the decade. On average, the MSAs' employment grew at a rate of 1.6 percent during the 2000 to 2005 period. West Virginia and the U.S. added job at annual rates of 0.5 and 0.9 percent, respectively. Comparatively, micropolitan statistical areas and non-metro/non-micro counties added jobs at rates of 0.6 and 0.4 percent.

In West Virginia only 14.8 percent of the population 25 years old or older held a bachelor's diploma in 2000, which is 9.6 percent lower than the nation's education level for the same age group. The level of education of residents represents a key component of human capital accumulation, which pushes economic growth. Table 8 also displays the percent of the population over the age of 25 that holds at least a bachelor's degree. MSAs reported that 35.8 percent of their residents having at least a bachelor's degree in 2000. Once again, the Washington MSA shows better signs of economic growth possibilities with an education attainment rate of 42.5 percent. The Morgantown MSA followed suit at 26.0 percent because West Virginia University is located in the MSA, while the Weirton MSA had the lowest with 12.1 percent. The rates drop significantly outside the MSAs, as micropolitan statistical areas were slightly below West Virginia's at 13.1 percent, and non-metro/non-micro counties showed an even lower rate at 10.2 percent.

According to the Office of Federal Housing Enterprise (OFHEO), the second quarter of 2007 experienced the lowest house-price quarterly increase since 1994. Growth for the MSAs house prices had started to slow down since 2006. The House Price Index (HPI) is a broad measure designed by the OFHEO to capture changes in the value of single-family homes in the U.S. as a whole, in MSAs, and in the individual states and the District of Columbia. Between 2000 and 2006 house prices in West Virginia grew at an annual rate of 6.2 percent, while the U.S. experienced average growth at 9.1 percent per year. Despite negative population growth in some of the MSAs, all of those MSAs showed positive annual housing price growth. The Charleston MSA had the slowest housing price appreciation at 3.9 percent, followed by the Parkersburg MSA at 4.1 percent annually. On the other hand Hagerstown, Washington, and Winchester, the MSAs closer to Washington D.C., had the highest price annual growth (ranging from 12.3 percent to 15.2 percent).

After experiencing a rapid growth from 2002 through 2005, the prices of single-family homes started to experience slower growth in 2006. Figure 23 shows the trends of the house price index by quarter for West Virginia, the U.S., and the fastest growing MSAs. As Figure 23 shows, house prices saw steady growth during the second half of the 1990's. Starting in the last quarter of 2001 house prices began a period of faster growth, reflecting the beginning of the house price boom.

FIGURE 23
OFHEO HOUSE PRICE INDEXES
SELECTED MSAS WITH COUNTIES IN W.VA.



As Figure 23 above shows, house price appreciation in the metropolitan statistical areas close to and including Washington D.C has almost stopped. Those MSAs, which include the Eastern Panhandle, saw phenomenal appreciation during the 2002 to 2006 period. However, the prices of houses started to increase at a slower pace in the first quarter of 2006, and are now essentially flat. The Morgantown MSA, West Virginia, and the U.S are also exhibiting slower house price appreciation.

County Performance

Population

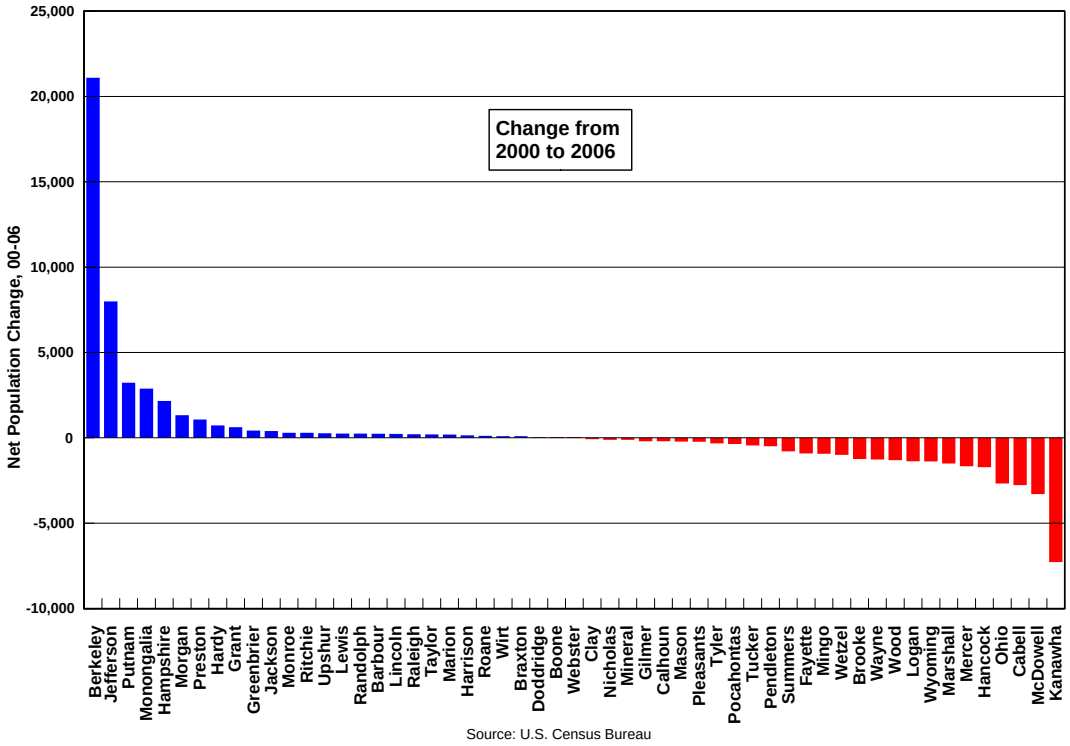
Twenty-nine out of fifty-five counties in West Virginia lost population between 2000 and 2006. During this period, the state's growth was characterized by negative natural increase, and positive net domestic and international migration. Berkeley and Jefferson counties, located in the Eastern Panhandle, had growth rates well above the U.S. average, while McDowell and Tucker counties both experienced the largest negative annual growth rates. Additionally, Pendleton County, which had a positive annual growth rate above the U.S rate in the 1990's, recorded a population growth rate of -1.0 percent per year.

As Table 9 shows, the state experienced 1,609 more deaths than births between April 2000 and July 2006, while generating population growth due to net domestic migration and international migration. Although not enough to offset Ohio and Marion's negative natural increase of 888 and 777 individuals, respectively, Berkeley County reduced the state's overall natural decrease by having 2,840 more births than deaths.

West Virginia overall still displayed positive population growth, adding 10,126 residents. Net domestic migration added 12,772 residents, and international migration added and 4,449. Nonetheless, as Figure 24 shows, without Berkeley County's gain of over 21,000 additional

residents (18,851 attributed to domestic migration), West Virginia would have had an overall population loss during the six-year period. Berkeley's high number of new residents can be partly explained by its proximity to Washington D.C., which provides residents opportunities to commute to better jobs around the metropolitan area, while enjoying cheaper housing.

FIGURE 24
W.VA. NET POPULATION CHANGE BY COUNTY



Source: U.S. Census Bureau

International migration was primarily strong where major education centers are located. Berkeley County did not attract as many non-U.S. citizens as other counties did. Instead, Monongalia, home to the West Virginia University, experienced the largest inflow of international citizens. From 2000 to 2006, it saw an increase of 1,557 foreign individuals. Kanawha, with 518 new internationals, had the second highest number of international migrants, which can also be explained by the fact that it is home to the state's capital and University of Charleston.

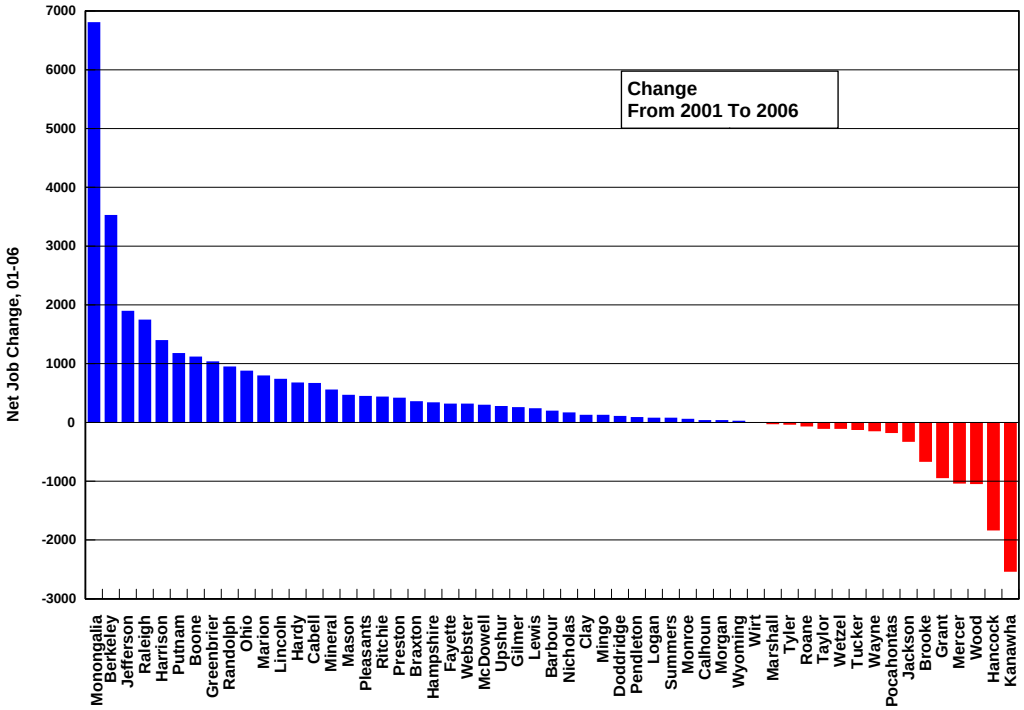
Employment

As Table 10 shows, between 2001 and 2006 West Virginia experienced faster annual job growth than the U.S. West Virginia added jobs at an annual rate of 0.6 percent, while the U.S. annual average growth rate was 0.3 percent. Lincoln County showed the highest job growth rate in the state at 4.6 percent per year. It added goods-producing jobs at a rate of 14.4 percent per year, while creating service-providing jobs at a rate of 2.3 percent. Pleasants County had the second highest job growth rate, mainly driven by 6.6 percent annual growth in the goods-producing

sector. Job losses in the manufacturing industry drove Grant and Hancock counties to have negative job growth rates of -4.3 and -2.7 percent, respectively.

Kanawha County experienced job losses at a rate of -0.4 percent. Conversely, Putnam, Boone, and Clay counties, also part of the Charleston MSA, experienced positive job growth rates. Kanawha's negative employment growth was composed by a -3.0 percent annual rate in the goods-producing sector, and a -0.1 percent in the service-providing sector. Figure 25 confirms Kanawha's negative job growth from 2001 to 2006. Losing 2,540 jobs, Kanawha experienced the largest number of jobs lost in the state. On the other hand, although outpaced by Lincoln and Pleasants counties, Monongalia County had the largest number of jobs created during the five-year period, adding 6,810 jobs, at an average annual rate of 2.9 percent. As part of the Eastern Panhandle, Jefferson and Berkeley counties were both ranked in the top ten counties with highest annual growth rates as well as largest number of jobs added.

FIGURE 25
W.VA. NET JOB CHANGE BY COUNTY



Source data: WORKFORCE WV, May 2007

Table 10 also shows annual unemployment rates for the years 2004, 2005, and 2006. West Virginia outperformed the nation in 2004 and 2005, with unemployment rates of 5.3 and 5.0 percent, respectively. However, in 2006 the state fell behind the U.S with 4.9 percent of the civilian labor force unemployed, compared to the nation's 4.6 percent. Despite experiencing the largest job growth rate in the state, Lincoln County still presents one of the highest unemployment rates in the state in 2006. With 6.1 percent, it was significantly above both the nation and the state's unemployment rates

Personal Income

West Virginia's per capita personal income (PCPI) grew faster than the U.S. average from 2000 to 2005. Personal income is composed of net earnings from work, asset income (dividends, interest, and rental income), and transfer payments. PCPI provides information about the living standards (quality of life) of individuals, without taking into account other important factors such as crime, traffic congestion, or cost of living. Table 11 shows per capita income data by county for 2000 and 2005. West Virginia's annual PCPI growth averaged 3.8 percent, 0.9 percent faster than the nation's. Moreover, the state's per capita personal income also grew faster than the nation's average annual inflation rate of 2.5 percent.

In 2005 Kanawha County had the highest PCPI in West Virginia; however, it still fell behind the U.S average. Kanawha's $34,361 PCPI was well above the state's $26,419, but below the nation's $34,471 per capita income. The county with the lowest PCPI in 2005 was Clay County at $16,562. In terms of growth, both Kanawha and Clay counties had per capita income growth rates similar to the state's average from 2000 to 2005. Logan County had the highest PCPI growth rate at 5.6 percent. The lowest growth rate belonged to Wirt County at 2.1 percent per year.

TABLE 9
WEST VIRGINIA COUNTY POPULATION CHARACTERISTICS

	Total Population						Components of Change - April 2000 to July 2006				
	April 1990	April 2000	July 2000	July 2006	Ann. % Ch. April 1990-April 2000	Ann. % Ch. July 2000-July 2006	Births	Deaths	Natural Increase	Net Domestic Migration	Net International Migration
Barbour	15,699	15,557	15,548	15,788	-0.1	0.3	1,031	1,194	-163	433	6
Berkeley	59,253	75,905	76,445	97,534	2.5	4.1	7,341	4,501	2,840	18,851	111
Boone	25,870	25,535	25,513	25,512	-0.1	-0.0	2,056	1,855	201	-178	36
Braxton	12,998	14,702	14,714	14,810	1.2	0.1	911	1,030	-119	277	-
Brooke	26,992	25,447	25,376	24,132	-0.6	-0.8	1,493	2,035	-542	-694	11
Cabell	96,827	96,784	96,674	93,904	-0.0	-0.5	7,238	7,414	-176	-2,752	329
Calhoun	7,885	7,582	7,584	7,381	-0.4	-0.5	452	579	-127	-45	-1
Clay	9,983	10,330	10,341	10,256	0.3	-0.1	855	721	134	-173	-1
Doddridge	6,994	7,403	7,416	7,459	0.6	0.1	462	542	-80	159	-
Fayette	47,952	47,579	47,521	46,610	-0.1	-0.3	3,520	3,876	-356	-572	105
Gilmer	7,669	7,160	7,167	6,965	-0.7	-0.5	388	494	-106	-99	33
Grant	10,428	11,299	11,288	11,915	0.8	0.9	818	745	73	583	-1
Greenbrier	34,693	34,453	34,421	34,850	-0.1	0.2	2,351	2,813	-462	939	22
Hampshire	16,498	20,203	20,320	22,480	2.0	1.7	1,420	1,307	113	2,196	27
Hancock	35,233	32,667	32,628	30,911	-0.8	-0.9	2,194	2,715	-521	-1,137	5
Hardy	10,977	12,669	12,695	13,420	1.4	0.9	893	897	-4	782	8
Harrison	69,371	68,652	68,601	68,745	-0.1	0.0	5,111	5,423	-312	307	313
Jackson	25,938	28,000	28,059	28,451	0.8	0.2	2,002	1,794	208	311	29
Jefferson	35,926	42,190	42,451	50,443	1.6	2.9	3,827	2,433	1,394	6,819	139
Kanawha	207,619	200,073	199,699	192,419	-0.4	-0.6	15,033	15,708	-675	-6,886	518
Lewis	17,223	16,919	16,878	17,129	-0.2	0.2	1,162	1,359	-197	447	8
Lincoln	21,382	22,108	22,133	22,357	0.3	0.2	1,812	1,677	135	190	-1
Logan	43,032	37,710	37,586	36,218	-1.3	-0.6	2,837	3,012	-175	-1,232	21
McDowell	35,233	27,329	27,172	23,882	-2.5	-2.1	1,886	2,486	-600	-2,781	7
Marion	57,249	56,598	56,516	56,706	-0.1	0.1	3,844	4,621	-777	953	104
Marshall	37,356	35,519	35,405	33,896	-0.5	-0.7	2,210	2,443	-233	-1,279	12
Mason	25,178	25,957	25,972	25,756	0.3	-0.1	1,831	1,853	-22	-95	-1
Mercer	64,980	62,980	62,944	61,278	-0.3	-0.4	4,568	5,157	-589	-1,007	87
Mineral	26,697	27,078	27,044	26,928	0.1	-0.1	1,940	1,940	-	-111	46
Mingo	33,739	28,253	28,035	27,100	-1.8	-0.6	2,318	2,147	171	-1,255	12
Monongalia	75,509	81,866	81,866	84,752	0.8	0.6	5,626	3,977	1,649	-77	1,557
Monroe	12,406	14,583	13,219	13,510	1.6	0.4	802	958	-156	508	-
Morgan	12,128	14,943	15,015	16,337	2.1	1.4	969	1,102	-133	1,514	58
Nicholas	26,775	26,562	26,561	26,446	-0.1	-0.1	1,704	1,839	-135	102	6
Ohio	50,871	47,427	47,341	44,662	-0.7	-1.0	2,913	3,801	-888	-1,927	160
Pendleton	8,054	8,196	8,167	7,679	0.2	-1.0	503	582	-79	-427	12
Pleasants	7,546	7,514	7,507	7,280	-0.0	-0.5	449	546	-97	-124	8
Pocahontas	9,008	9,131	9,111	8,755	0.1	-0.7	551	791	-240	-110	-1
Preston	29,037	29,334	29,308	30,384	0.1	0.6	1,953	2,076	-123	1,252	9
Putnam	42,835	51,589	51,751	54,982	1.9	1.0	4,030	2,840	1,190	2,331	34
Raleigh	76,819	79,220	79,092	79,302	0.3	0.0	5,494	5,787	-293	368	238
Randolph	27,803	28,262	28,220	28,465	0.2	0.1	1,979	2,221	-242	476	57
Ritchie	10,233	10,343	10,337	10,628	0.1	0.5	768	797	-29	347	-1
Roane	15,120	15,446	15,469	15,583	0.2	0.1	1,105	1,128	-23	179	30
Summers	14,204	12,999	14,323	13,531	-0.9	-0.9	722	1,075	-353	-459	6
Taylor	15,144	16,089	16,103	16,304	0.6	0.2	969	1,233	-264	531	6
Tucker	7,728	7,321	7,299	6,856	-0.5	-1.0	389	541	-152	-285	-1
Tyler	9,796	9,592	9,592	9,264	-0.2	-0.6	559	697	-138	-170	6
Upshur	22,867	23,404	23,413	23,685	0.2	0.2	1,759	1,685	74	236	34
Wayne	41,636	42,903	42,915	41,647	0.3	-0.5	2,983	2,890	93	-1,267	59
Webster	10,729	9,719	9,700	9,696	-1.0	-0.0	581	735	-154	148	13
Wetzel	19,258	17,693	17,680	16,685	-0.8	-1.0	1,187	1,381	-194	-761	-1
Wirt	5,192	5,873	5,881	5,980	1.2	0.3	373	347	26	106	-1
Wood	86,915	87,986	87,902	86,597	0.1	-0.2	6,333	6,099	234	-1,475	134
Wyoming	28,990	25,708	25,610	24,225	-1.2	-0.9	1,697	1,912	-215	-1,195	13
West Virginia	1,793,477	1,808,344	1,807,528	1,818,470	0.1	0.1	130,202	131,811	-1,609	12,772	4,419
United States	248,709,873	281,421,906	282,216,952	299,398,484	1.2	1.0	25,486,569	15,162,197	10,324,372	-	7,649,510

Source: Data is from the U.S. Department of Commerce, U.S. Census Bureau. <http://www.census.gov>.
Calculation of changes by authors. All changes are annual.

TABLE 10
NONFARM EMPLOYMENT GROWTH AND UNEMPLOYMNENT RATES
WEST VIRGINIA COUNTIES

					Average Annual Growth Rates 2001-2006						
			Annual Gr.(%)		Goods-		Service-				
	2001	2006	2001-2006	Rank	Producing	Rank	Producing	Rank	2004	2005	2006
Barbour	3,710	3,910	1.1	22	4.2	11	0.6	36	6.4	6.0	5.7
Berkeley	27,090	30,620	2.5	8	3.1	17	2.4	6	4.1	3.9	4.2
Boone	7,950	9,070	2.7	5	4.0	12	1.6	12	5.0	4.5	4.8
Braxton	4,100	4,460	1.7	12	4.7	7	1.0	19	5.9	5.9	5.6
Brooke	10,030	9,360	-1.4	53	-4.7	50	-0.1	47	7.3	7.1	7.4
Cabell	53,630	54,300	0.2	37	-0.9	35	0.4	41	4.8	4.4	4.6
Calhoun	1,500	1,540	0.5	31	0.0	30	0.7	32	9.4	8.5	7.3
Clay	2,080	2,210	1.2	19	-1.7	39	2.4	7	7.5	7.6	6.9
Doddridge	1,220	1,330	1.7	11	6.6	4	0.9	25	5.0	4.7	5.3
Fayette	13,120	13,440	0.5	33	-2.3	42	0.9	26	6.2	5.7	5.7
Gilmer	2,110	2,370	2.4	9	-2.1	41	3.9	1	4.5	4.6	4.7
Grant	4,810	3,860	-4.3	55	-13.8	55	0.8	30	6.7	6.2	6.1
Greenbrier	13,430	14,470	1.5	15	1.4	24	1.5	15	5.7	6.0	6.2
Hampshire	4,050	4,390	1.6	13	1.1	26	1.7	11	4.5	4.1	3.9
Hancock	14,430	12,590	-2.7	54	-9.1	54	1.1	18	7.6	7.3	7.7
Hardy	6,220	6,900	2.1	10	1.4	25	3.0	3	4.0	3.7	3.9
Harrison	33,090	34,490	0.8	25	0.7	27	0.9	28	5.3	4.6	4.7
Jackson	9,330	9,000	-0.7	49	-3.1	45	0.4	42	6.3	5.8	5.3
Jefferson	13,360	15,260	2.7	4	-1.1	36	3.4	2	3.2	3.2	3.3
Kanawha	117,930	115,390	-0.4	46	-3.0	44	-0.1	46	4.9	4.8	4.4
Lewis	6,070	6,310	0.8	26	-0.9	34	1.2	17	5.3	4.9	5.2
Lincoln	2,910	3,650	4.6	1	14.4	1	2.3	8	6.3	6.3	6.1
Logan	12,080	12,160	0.1	38	1.5	23	-0.2	49	5.8	4.8	4.9
McDowell	5,940	6,240	1.0	23	3.1	16	0.6	39	10.3	8.1	7.8
Marion	21,720	22,520	0.7	27	-0.0	31	0.9	24	4.9	4.5	4.4
Marshall	11,850	11,820	-0.1	40	-1.8	40	0.7	31	6.0	5.7	5.7
Mason	6,780	7,250	1.3	17	3.7	14	0.9	23	8.0	7.7	7.0
Mercer	24,440	23,400	-0.9	51	-2.4	43	-0.7	54	5.7	4.9	5.0
Mineral	7,280	7,840	1.5	16	4.4	8	0.6	37	5.7	5.2	5.0
Mingo	8,620	8,750	0.3	35	1.9	22	-0.5	53	7.0	5.7	5.5
Monongalia	45,130	51,940	2.9	3	5.0	5	2.6	4	3.4	3.6	3.4
Monroe	2,390	2,450	0.5	32	4.3	10	-0.4	51	4.5	4.6	5.5
Morgan	3,160	3,200	0.3	36	-1.4	38	0.6	35	4.2	4.5	4.7
Nicholas	9,090	9,260	0.4	34	0.1	29	0.5	40	5.4	5.4	5.3
Ohio	29,770	30,650	0.6	30	4.8	6	0.2	43	5.1	4.8	4.8
Pendleton	1,900	1,990	0.9	24	4.3	9	0.6	38	3.9	3.7	4.3
Pleasants	2,860	3,310	3.0	2	6.6	3	1.5	16	6.1	6.2	5.6
Pocahontas	3,840	3,660	-1.0	52	-3.2	46	-0.5	52	6.2	6.3	7.8
Preston	7,200	7,620	1.1	20	-0.8	33	1.8	10	5.1	4.7	4.5
Putnam	18,230	19,410	1.3	18	2.1	21	1.0	20	4.5	4.5	4.2
Raleigh	32,030	33,780	1.1	21	2.7	19	0.8	29	5.3	4.6	4.5
Randolph	12,150	13,100	1.5	14	3.6	15	1.0	22	5.5	5.1	5.1
Ritchie	3,270	3,710	2.6	7	2.8	18	2.5	5	6.6	5.7	5.0
Roane	3,600	3,530	-0.4	44	-4.5	49	1.0	21	7.9	7.3	6.3
Summers	2,620	2,700	0.6	29	8.9	2	-0.1	45	6.1	6.2	6.4
Taylor	3,420	3,310	-0.7	48	-7.3	53	0.9	27	4.9	5.1	5.3
Tucker	3,110	2,980	-0.9	50	-4.0	47	-0.2	48	6.6	6.2	6.2
Tyler	2,740	2,700	-0.3	43	-4.1	48	1.6	13	7.4	7.1	7.2
Upshur	8,780	9,060	0.6	28	0.4	28	0.7	33	5.2	4.8	4.8
Wayne	10,510	10,360	-0.3	42	-1.3	37	-0.0	44	5.3	5.1	5.4
Webster	2,330	2,650	2.6	6	3.9	13	2.0	9	5.6	5.7	5.8
Wetzel	5,360	5,250	-0.4	45	-0.8	32	-0.4	50	8.7	9.2	8.2
Wirt	840	830	-0.2	41	-6.9	52	1.5	14	7.0	7.3	6.1
Wood	44,000	42,950	-0.5	47	-5.7	51	0.6	34	5.4	5.3	4.9
Wyoming	5,960	5,990	0.1	39	2.7	20	-0.9	55	6.5	5.2	5.6
West Virginia	735,200	755,900	0.6	--	-0.4	--	0.7	--	5.3	5.0	4.9
U.S.	131,826,000	136,174,000	0.7	--	-1.1	--	1.0	--	5.5	5.1	4.6

Source: West Virginia Bureau of Employment Programs. [http://www.state.wv.us/bep/]
Calculation of ranks and changes by authors. All changes are annual. A rank of 1 indicates the highest growth rate.

TABLE 11
WEST VIRGINIA PERSONAL INCOME BY COUNTY 2000-2005

	Total Personal Income (Millions $)			Per Capita Personal Income			PCPI Rank	
	2000	2005	Annual Gr. (%) 2000-2005	2000	2005	Annual Gr. (%) 2000-2005	Level 2005	Annual Gr. 2000-2005
Barbour	262.4	324.4	4.3	16,878	20,719	4.2	45	22
Berkeley	1,777.2	2,517.8	7.2	23,248	26,990	3.0	11	46
Boone	493.1	550.8	2.2	19,328	21,503	2.2	39	54
Braxton	229.3	287.2	4.6	15,586	19,329	4.4	48	16
Brooke	568.0	633.5	2.2	22,383	25,883	2.9	16	50
Cabell	2,285.0	2,639.9	2.9	23,636	28,088	3.5	8	36
Calhoun	118.7	134.7	2.5	15,657	18,279	3.1	52	42
Clay	141.8	170.9	3.8	13,713	16,560	3.8	55	31
Doddridge	124.0	145.0	3.2	16,724	19,401	3.0	47	47
Fayette	866.6	1,051.5	3.9	18,236	22,584	4.4	33	17
Gilmer	125.6	150.2	3.6	17,528	21,577	4.2	38	18
Grant	236.0	289.6	4.2	20,910	24,781	3.5	24	37
Greenbrier	721.2	888.2	4.3	20,952	25,502	4.0	18	26
Hampshire	381.1	468.1	4.2	18,756	21,268	2.5	41	53
Hancock	737.5	817.7	2.1	22,602	26,215	3.0	14	48
Hardy	243.2	308.8	4.9	19,159	23,216	3.9	29	30
Harrison	1,648.7	1,994.6	3.9	24,033	29,135	3.9	7	28
Jackson	560.8	645.4	2.9	19,986	22,802	2.7	32	52
Jefferson	1,130.0	1,567.1	6.8	26,619	31,877	3.7	3	33
Kanawha	5,746.0	6,645.9	3.0	28,773	34,361	3.6	1	35
Lewis	315.2	411.8	5.5	18,673	24,042	5.2	27	5
Lincoln	343.5	426.4	4.4	15,520	18,995	4.1	50	23
Logan	716.3	906.8	4.8	19,059	25,038	5.6	20	1
McDowell	393.5	435.9	2.1	14,484	17,964	4.4	53	15
Marion	1,268.2	1,523.7	3.7	22,439	26,891	3.7	13	32
Marshall	741.3	897.8	3.9	20,938	26,213	4.6	15	13
Mason	487.0	554.0	2.6	18,750	21,503	2.8	39	51
Mercer	1,359.8	1,564.3	2.8	21,604	25,487	3.4	19	38
Mineral	543.0	655.5	3.8	20,078	24,330	3.9	26	29
Mingo	543.3	608.9	2.3	19,380	22,416	3.0	34	49
Monongalia	1,910.6	2,515.9	5.7	23,338	29,742	5.0	5	8
Monroe	239.2	284.7	3.5	18,092	21,027	3.1	43	45
Morgan	353.9	483.3	6.4	23,572	30,229	5.1	4	7
Nicholas	520.6	606.9	3.1	19,601	23,017	3.3	31	41
Ohio	1,284.3	1,436.8	2.3	27,129	31,959	3.3	2	39
Pendleton	166.0	192.8	3.0	20,328	24,839	4.1	22	24
Pleasants	159.5	198.1	4.4	21,249	27,029	4.9	10	9
Pocahontas	183.5	218.9	3.6	20,144	24,790	4.2	23	20
Preston	538.4	700.8	5.4	18,372	23,319	4.9	28	11
Putnam	1,299.3	1,606.6	4.3	25,107	29,540	3.3	6	40
Raleigh	1,714.1	2,136.4	4.5	21,672	26,980	4.5	12	14
Randolph	575.5	732.9	5.0	20,395	25,710	4.7	17	12
Ritchie	194.4	243.7	4.6	18,805	23,147	4.2	30	19
Roane	267.4	310.7	3.0	17,285	20,117	3.1	46	43
Summers	212.0	259.6	4.1	14,800	19,043	5.2	49	6
Taylor	276.0	340.9	4.3	17,139	21,068	4.2	42	21
Tucker	136.7	169.8	4.4	18,735	24,438	5.5	25	3
Tyler	164.2	193.9	3.4	17,114	20,843	4.0	44	25
Upshur	419.1	512.2	4.1	17,899	21,718	3.9	36	27
Wayne	741.4	921.9	4.5	17,277	21,971	4.9	35	10
Webster	137.0	180.2	5.6	14,128	18,501	5.5	51	2
Wetzel	368.3	422.3	2.8	20,829	24,880	3.6	21	34
Wirt	94.6	105.1	2.1	16,084	17,860	2.1	54	55
Wood	2,094.0	2,407.8	2.8	23,821	27,714	3.1	9	44
Wyoming	424.4	527.1	4.4	16,571	21,607	5.5	37	4
West Virginia	39,582.0	47,925.6	3.9	21,898	26,419	3.8	--	--
U.S.	8,422,074.0	10,220,942.0	3.9	29,843	34,471	2.9	--	--

Source: Regional Economic Information System, Bureau of Economic Analysis. The data used in this table can be found at <http://www.bea.gov/bea/regional/reis/>. Calculations of ranks and changes by authors. All changes are annual.
A rank of 1 indicates the highest growth rate. Growth rate ranks take into account unpublished significant digits.

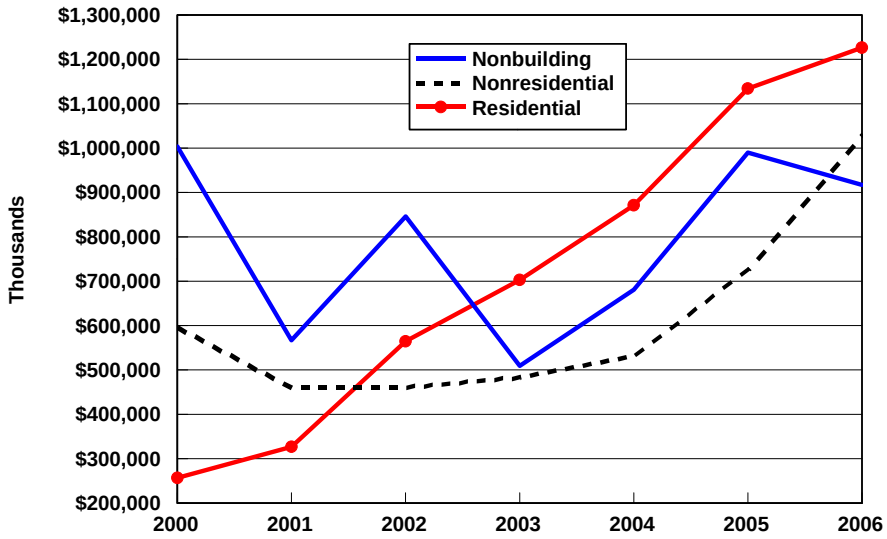
Focus On…

West Virginia Construction Update 2007

Scott Murdoch, Graduate Research Assistant

According to F.W. Dodge, total construction value of residential, nonresidential, and non-building in West Virginia was approximately $3.17 billion during 2006. Total construction value had increased by approximately $323.7 million from 2005, or an annual average growth rate of 11.3 percent. As illustrated in Figure 26, residential construction contracts accounted for the largest portion of total construction value in the state during 2006, approximately 38.6 percent. Nonresidential construction demonstrated the highest annual average growth rate during the 2005 to 2006 period rising by 41.7 percent. Nonresidential construction includes government buildings, schools, libraries, manufacturing plants, warehouse, labs, office and bank buildings, hotels, parking garages, hospitals, religious buildings, and other buildings that are not "residential." Non-building construction declined at an annual average growth rate of 7.3 percent between 2005 and 2006.

FIGURE 26
W.VA. VALUE OF CONSTRUCTION CONTRACTS BY TYPE
F.W. DODGE

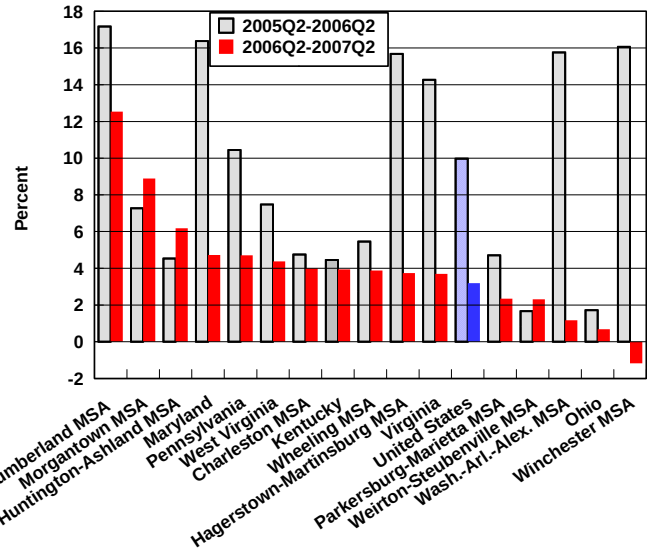


As shown in Figure 26, the last time non-building demonstrated a negative growth rate was between 2002 and 2003, declining by 39.8 percent or $337.1 million. Before this decline non-building construction contracts accounted for the largest portion of West Virginia construction. Non-building activity includes highways, roads, water, sewer, and utility construction. During the 2003 to 2006 period, residential construction demonstrated the largest share of West Virginia construction. Residential construction increased from $702.8 million in 2003 to $1.2 billion in 2006, or an average annual growth rate of 20.4 percent. Between 2003 and 2005, non-building

construction represented the second largest share of the state's construction. Non-building construction increased from $509.0 million in 2003 to $989.9 million in 2005, or an average annual growth rate of 39.4 percent. However, during 2006 nonresidential became the second largest share of West Virginia construction because of its high growth rate.

Figure 27 illustrates single-family house price appreciation for West Virginia MSAs, West Virginia's five surrounding states, and the nation. West Virginia's house price appreciation was 4.4 percent between the second quarters of 2006 and 2007, which is a decline from the 7.5 percent demonstrated between the second quarters of 2005 and 2006. West Virginia's house price appreciation outperformed the nation (3.2 percent) between the second quarter of 2006 and the second quarter of 2007.

FIGURE 27
HOUSE PRICE APPRECIATION SLOWS
OFFICE OF FEDERAL ENTERPRISE OVERSIGHT



The housing downturn has been an issue of concern throughout the nation, recently, and for valid reasons. The subprime lending market allowed many consumers to become first time homeowners. However, many subprime loans have been defaulted on because the risk of these loans were not evaluated correctly. This situation has caused a credit crunch in the nation, with lending institutions constraining the pool of loan applicants to those with low risk until the damage of the subprime lending market can be better evaluated. The credit crunch puts a constraint on consumer spending as well, because in recent years many consumers have used the increasing value of their homes as a source of income.

As Figure 27 shows some MSAs have been affected by the housing correction more than others. The Winchester MSA has been affected the most by the housing correction displaying house price depreciation of 1.2 percent between the second quarters of 2006 and 2007. The Morgantown, Huntington-Ashland, and Weirton-Steubenville MSAs were the only MSAs to display house price acceleration between the two periods.

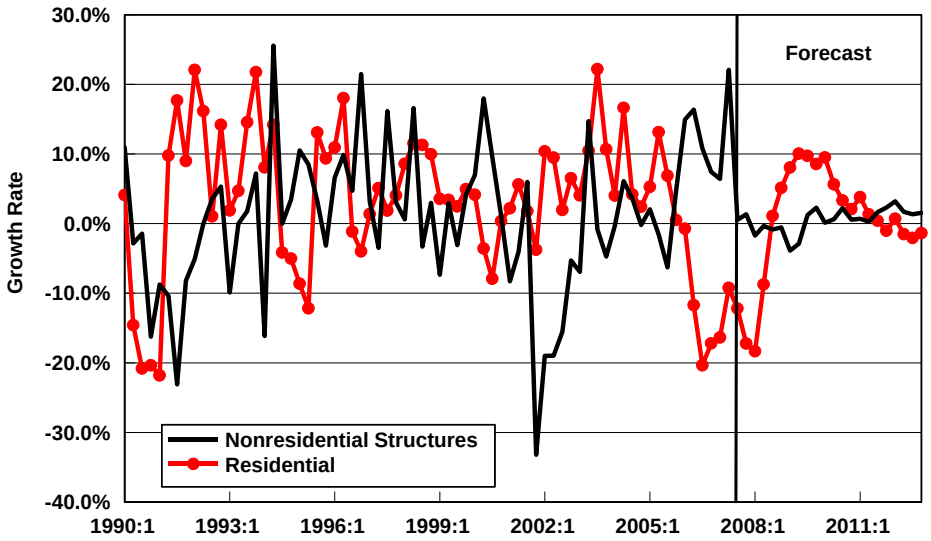
The U.S. mortgage rate plays a significant role in the stability and growth of the housing market. In recent years the 30-year fixed mortgage rate has been relatively low. The U.S. mortgage rate reached its lowest point in 2003 at 5.82 percent. In 2005 the 30-year fixed mortgage rate had only slightly increased to 5.86 percent, while rates increased to 6.42 percent during 2006. The U.S. forecast by Global Insight calls for the 30-year fixed mortgage rate to increase every year from 6.45 percent in 2007 to 7.27 percent in 2011, and then slightly decrease to 7.25 percent in 2012.

Figure 28 displays the growth rate of U.S. residential fixed investment and nonresidential structures investment. Residential fixed investment is representative of housing and nonresidential structures are representative of commercial buildings. As illustrated in Figure 28, since the first quarter of 1990 both residential and nonresidential investment has fluctuated greatly. Residential fixed investment has displayed a negative annual average growth rate since the first quarter of 2006. The forecast calls for residential fixed investment to decline further from an annual average growth rate of -12.2 percent during the third quarter of 2007 to -18.3 percent during the first quarter of 2008. After the first quarter of 2008, residential fixed investment is anticipated to rebound, reaching an annual average growth rate of 9.5 percent in the first quarter of 2010. Nonresidential fixed structure investment is expected to remain stable during the forecast period, beginning with an annual average growth rate of 0.6 percent during the third quarter of 2007 and ending with 1.6 percent during the fourth quarter of 2012.

FIGURE 28

U.S. RESIDENTIAL AND NONRESIDENTIAL INVESTMENT GROWTH

FORECAST FROM GLOBAL INSIGHT AUGUST 2007



County and Labor Market Results

Table 12 displays the per capita value of construction by county and type during 2006. Berkeley County demonstrated the highest total per capita construction value with $9,735, followed by Hardy County with $7,884, and Morgan County with $4,863. The high level of construction in Berkeley County came from residential (single-family housing) and nonresidential (manufacturing plants, warehouses, and labs). Berkeley County ranked the highest for per capita residential ($5,278) and nonresidential ($3,618) construction value. Hardy County construction contracts were primarily from non-building, due to the construction of Corridor H. Hardy County ranked the highest for per capita non-building ($6,315) construction. Morgan County's construction contracts were also primarily from single-family housing. Summers County demonstrated the lowest total per capita construction value with $233, followed by Pleasant County ($265), and Lincoln County ($296). To get a level of comparison for these statistics, total per capita construction value for West Virginia $1,745 during 2006.

TABLE 12
WEST VIRGINIA COUNTY CONSTRUCTION DATA

	Per Capita Construction Value							
	Total Construction Value		Value Of Residential		Value Of Nonresidential		Value Of Nonbuilding	
		Rank	2006	Rank	2006	Rank	2006	Rank
Barbour	486	43	210	40	143	24	133	44
Berkeley	9,735	1	5,278	1	3,618	1	838	8
Boone	409	47	348	20	0	40	61	53
Braxton	1,095	22	277	24	0	40	818	9
Brooke	365	48	93	50	31	34	241	27
Cabell	1,114	20	271	25	701	8	142	42
Calhoun	633	34	450	12	0	40	182	34
Clay	1,778	12	99	49	575	9	1,104	6
Doddridge	2,125	9	421	15	1,414	5	290	23
Fayette	778	27	192	41	48	31	538	17
Gilmer	559	40	220	34	0	40	339	20
Grant	2,772	6	499	11	245	17	2,028	2
Greenbrier	1,603	13	1,403	6	52	30	149	40
Hampshire	2,392	8	1,583	4	164	23	646	13
Hancock	355	49	147	46	66	29	142	43
Hardy	7,884	2	1,569	5	0	40	6,315	1
Harrison	837	25	385	17	267	16	184	32
Jackson	540	41	60	52	316	14	164	35
Jefferson	4,403	4	2,672	3	1,290	6	442	19
Kanawha	1,331	15	164	43	195	21	972	7
Lewis	1,267	16	213	37	442	11	612	14
Lincoln	296	53	125	48	22	36	148	41
Logan	616	35	269	26	183	22	164	36
McDowell	1,227	17	235	31	315	15	677	12
Marion	756	29	164	44	436	12	157	39
Marshall	1,816	10	212	39	1,475	4	129	46
Mason	1,165	19	217	36	790	7	157	38
Mercer	312	52	32	54	119	27	161	37
Mineral	1,204	18	726	7	358	13	120	48
Mingo	652	31	230	32	85	28	336	21
Monongalia	2,713	7	237	30	1,758	2	719	10
Monroe	420	46	329	21	37	32	54	55
Morgan	4,863	3	4,716	2	19	37	128	47
Nicholas	516	42	229	33	31	35	257	24
Ohio	1,102	21	155	45	473	10	475	18
Pendleton	757	28	504	10	0	40	252	25
Pleasants	265	54	38	53	0	40	226	28
Pocahontas	592	37	409	16	0	40	183	33
Preston	635	33	242	29	200	20	193	31
Putnam	3,690	5	603	8	1,660	3	1,427	4
Raleigh	851	23	437	13	201	18	214	29
Randolph	1,814	11	218	35	129	25	1,467	3
Ritchie	573	38	245	27	0	40	329	22
Roane	567	39	435	14	0	40	132	45
Summers	233	55	128	47	0	40	105	49
Taylor	851	24	170	42	0	40	682	11
Tucker	1,576	14	362	19	0	40	1,214	5
Tyler	344	51	288	23	0	40	56	54
Upshur	345	50	244	28	11	39	90	50
Wayne	438	45	61	51	128	26	248	26
Webster	469	44	385	18	0	40	85	52
Wetzel	785	26	213	38	18	38	554	16
Wirt	606	36	517	9	0	40	89	51
Wood	718	30	303	22	201	19	213	30
Wyoming	642	32	0	55	33	33	609	15
West Virginia	1,745	--	674	--	567	--	504	--

Construction data is from FW Dodge, July 2007

Focus On….

Evaluating West Virginia Economic Outlook Forecasts

A forecast is a prediction about the future. In the simplest terms, evaluating a forecast means comparing forecast values to actual realizations. In theory, this is simple; in practice, it gets complicated. The purpose of this section is to systematically compare forecasts from the West Virginia Econometric Model to actual realizations and summarize the results.

Overall, the forecast differences have so far been fairly small for most of the major indicators of the state economy. But, as you know from your mutual fund prospectus, past performance is not necessarily a good indication of future performance. Indeed, part of the reason that the model has performed well during the last nine years is that the overall state/national economic environment has been fairly stable. However, as model forecasts extend to less stable time periods, forecast differences are likely to increase.

Keep in mind that most forecasts differ from what we eventually observe. It is a fact of life that the future is uncertain and an econometric model cannot surmount that. In addition, the current economic situation is uncertain. Even preliminary economic data are released at least one month after the fact and sometimes take years to become "final." Thus, we find ourselves in the position of evaluating what the future may bring, while in possession of only incomplete information about what has just happened!

Indeed, this uncertainty contributes to the importance of timely analysis of current trends and forecasting. The West Virginia Economic Outlook is devoted to increasing our understanding of current and past economic trends and exploring what these may mean for the future. The analysis below is intended to explain in an accessible way how the West Virginia Econometric Model works and how we can systematically track its performance.

What the Model Does

The West Virginia State Econometric Model consists of over 50 equations designed to relate key West Virginia economic variables to each other and to important national variables. The model forecasts nonfarm jobs by industry (until Fall 2003 these industries were classified using the Standard Industrial Classification (SIC) codes), the unemployment rate, population by age group, and inflation-adjusted personal income by major component.

Broadly speaking, the model separates the state economy into those sectors that depend on local economic conditions and those that depend on national/international conditions. For instance, a large part of retail trade activity depends on the income of state residents and population of the state. In contrast, a large part of the activity in the transportation equipment and chemical industries depends on the performance of the national and international economies, since much of the production of these industries is purchased by individuals and businesses located out of state.

In order to produce a forecast for West Virginia, the model requires forecasts for the relevant national and international variables. Thus, each state forecast depends on a specific national

forecast; ours have come from Global Insight (a major international forecasting and consulting firm).

To sum up, the forecast attempts to summarize as much as possible of what we know about the past, present, and expected future course of the state economy.

How to Evaluate a Forecast

The Switch to NAICS

The West Virginia State Econometric Model produced 14 state forecasts, using the SIC-based industry classification for the employment sector. This method of classifying firms into industries is a crucial step in data and model development. Beginning with the forecast produced in November 2003, we adopted the North American Industry Classification System (NAICS), because the U.S. Bureau of Labor Statistics (and the West Virginia Bureau of Employment Programs) have recently begun to release employment data solely on the NAICS basis. In other words, the SIC-based historical employment estimates have been discontinued.

This switch primarily impacts the employment sector of the model, but it also affects our ability to evaluate model performance, since forecasts produced using SIC-based data cannot be evaluated using NAICS-based historical data. Thus, our evaluation of SIC-based employment forecasts ended in November 2003. See past editions of the West Virginia Economic Outlook for forecast evaluations of SIC-based employment data. Forecast evaluation of employment by NAICS industry is now available for selected sectors. Again, recent decisions by the U.S. Bureau of Labor Statistics to limit published statistics to relatively large sectors impacts our ability to evaluate past forecasts. However, forecast evaluation of total employment, the unemployment rate, population by age group, and personal income by major component will continue as before.

The model produces quarterly forecasts, although we also present these results in the form of annual average forecasts. Each release contains forecasts ranging from one quarter ahead to between 12 and 16 quarters ahead.

To summarize the forecasting performance of the model, we focus on forecasts that are one, four, and eight quarters ahead and forecasts that are one, two, three, and four years ahead. The average results from these particular forecast horizons should be representative of the overall performance of the model.

Forecast Horizon

Now, what is the meaning of a one-quarter-ahead forecast? A practical example might answer this question more clearly. Suppose that in the spring of 2005, the most current historical data for employment ended with the second quarter of 2005. A one-quarter-ahead forecast at that time would be a forecast for the third quarter of 2005. A four-quarter-ahead forecast would extend to the second quarter of 2006.

Likewise, suppose that in the fall of 2005, the most current historical data for employment ended with the third quarter of 2005. A one-quarter-ahead forecast at that time would be a forecast for the fourth quarter of 2005. A four-quarter-ahead forecast would extend to the third quarter of 2006. Thus, each forecast has its own one-quarter-ahead forecast, four-quarters-ahead forecast, and so on.

This method of dealing with forecast horizons has an important implication when we analyze annual averages. That's because model forecasts are almost always completed without a full year's worth of data for the current year. In other words, in the fall of 2005 we had employment data through the third quarter of the year, which means that the annual average data for 2005 reflects three quarters of actual results and one quarter of forecast data. Further, that means that our annual data for 2005 is actually a forecast. For the purposes of our example, the annual data for 2005 is a one-year-ahead forecast and data for 2006 is a two-year-ahead forecast, and so on.

Forecast Difference

To measure how far a forecast differs from the actual results, I use the term "forecast difference." A forecast difference is measured simply as a forecast value minus the actual value. A percentage forecast difference is just the forecast difference divided by the actual value, multiplied by 100. Thus, a positive forecast difference tells us that the forecast exceeds the current estimate, whereas a negative difference tells that the forecast falls short of the current estimate.

In the end, I report average percentage forecast differences for all available forecasts at various forecast horizons. Since the forecast difference from each release could be positive or negative, an average of forecast differences would allow positive forecast differences to be canceled by negative forecast differences. In order to account for this, we also compute an average of the absolute percentage forecast differences.

Tracking West Virginia Economic Outlook Forecasts

Table 13 summarizes both the average absolute percentage forecast differences as well as the average percentage forecast differences for all variables. The table is based on data obtained from the evaluation of at most 23 available forecasts. It shows that in general the forecast values have fairly closely matched the actual values. Average absolute percentage forecast differences at the two-year-ahead horizon for the major aggregates (total nonfarm employment, total population, personal income) vary from 0.45 percent to 2.09 percent.

At the two-year-ahead horizon, the average absolute percentage difference is 0.62 percent for nonfarm payroll jobs. The average percentage difference at this horizon is 0.06 percent, indicating that the model has shown a slight tendency to overpredict job growth. Further, a forecast difference of 0.62 percent amounts to 4,687 jobs (evaluated at last year's employment level). In other words, on average for 23 forecasts, forecast values have tended to be 0.62 percent above or below actual values.

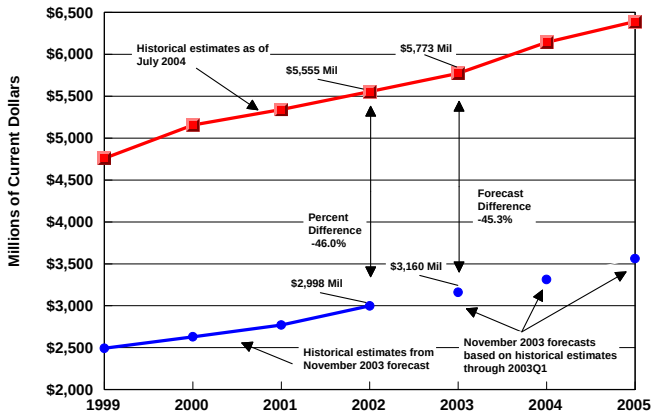
Population forecasts have also exceeded actual estimates on average, although the absolute percentage difference has not been large (0.45 percent at the two-year horizon). That translates into an average forecast difference of 8,183 residents (based on last year's level). For population, a two-year-ahead forecast horizon is really a two-year ahead forecast, because these estimates are released only once a year.

The largest forecast differences produced by the model have been in personal income. At the two-year-ahead horizon, average absolute forecast differences have averaged 2.09 percent. Looking at the forecast detail, wage and salary income shows the smallest forecast differences, while dividends, interest, and rent produces the largest differences.

Part of the reason that the forecast differences are largest in personal income is that most of the components of income (except wages and salaries) are subject to large historical revisions. Figure 29 provides a concrete example of how data revisions affect forecast evaluation, using data for West Virginia other labor income. This consists of employer contributions of employee pension and insurance funds and employer contributions for government insurance.

In July 2003, the U.S. Bureau of Economic Analysis (BEA) estimated that state income from other labor income amounted to $2,998 million dollars in 2002. This estimate was preliminary and based on incomplete data. For the November 2003 Outlook, the West Virginia Econometric Model used the 2002 data and forecasted from that level, producing a forecast for state other labor income in 2003 (a one-year-ahead forecast) of $3,160 million.

FIGURE 29
THE IMPACT OF DATA REVISIONS ON
FORECAST EVALUATION: W.VA. OTHER LABOR INCOME



*Consists of employer contributions of employee pension and insurance funds and employer contributions for government insurance.

By July 2004, BEA revised its presentation of personal income to include employer contributions for government social insurance, which increased the estimate of state other labor income for 2002 up to $5,555 million.[1] In the forecast evaluation of one-year-ahead forecasts, I compare the forecast (produced in November 2003) for other labor income for 2003 to the latest historical estimate of 2003 other labor income. The forecast difference for this particular forecast is now –45.3 percent. Indicating that the forecast produced in 2003 is significantly below current estimates.

However, it is clear that most of the forecast difference is attributable to the data revision, not to a problem with the forecast model. Indeed, the percent difference between the two historical estimates for 2002 was –46.0 percent. Thus, most of the observed forecast difference in 2003 is attributable to the data revision and not to problems with the model.

[1] This change in presentation does not affect the estimate of total personal income, since employer contributions for government social insurance are subsequently subtracted from gross earnings in the computation of personal income.

Table 14 summarizes the forecast evaluation for the Eastern Panhandle Region. The West Virginia Economic Outlook has produced forecasts for a large number of regions, but I focus on the Eastern Panhandle Region because there are ten forecasts available for evaluation. Having more than one or two forecasts is important so that one-time events do not dominate the forecast differences.

As the table shows, the Eastern Panhandle Region model has performed in much the same manner as the state model. One-year-ahead average absolute forecast differences for the major aggregates (total nonfarm employment, total population, personal income) range from 0.87 percent to 3.47 percent. Regional forecasts use annual data, so I cannot present a quarterly forecast evaluation. As we noted for the statewide forecasts, forecast differences are larger for personal income, and particularly so for the components of personal income which are subject to significant data revisions.

TABLE 13
TRACKING WEST VIRGINIA ECONOMIC OUTLOOK FORECASTS
QUARTERLY AND ANNUAL AVERAGE FORECAST DATA

	Percentage Differences: Quarterly Data						Percentage Differences: Annual Average Data							
	One Quarter Ahead		Four Quarters Ahead		Eight Quarters Ahead		One Year Ahead		Two Years Ahead		Three Years Ahead		Four Years Ahead	
	Avg. Diff.*	Avg. Abs. Diff.	Avg. Diff.*	Avg. Abs. Diff.	Avg. Diff.*	Avg. Abs. Diff.	Avg. Diff.*	Avg. Abs. Diff.	Avg. Diff.*	Avg. Abs. Diff.	Avg. Diff.*	Avg. Abs. Diff.	Avg. Diff.*	Avg. Abs. Diff.
Number of Forecasts**	23	23	23	23	21	21	23	23	21	21	19	19	17	17
Employment and Labor Force (%)														
Total Nonfarm Employment	-0.18	0.47	0.01	0.51	0.43	1.03	-0.10	0.40	0.06	0.62	0.61	1.17	1.61	1.77
Goods Producing	-0.08	1.25	-1.49	1.87	-3.77	3.77	-0.39	1.16	-2.54	2.54	-4.98	4.98	-6.83	6.83
Natural Res. & Mining	-2.49	4.67	-6.14	6.14	-12.62	12.62	-3.02	4.52	-8.27	8.27	-15.18	15.18	-22.67	22.67
Construction	-0.69	2.66	-4.32	4.88	-9.41	9.41	-1.22	2.44	-6.61	6.61	-12.33	12.33	-13.05	13.05
Manufacturing	1.27	1.27	2.26	2.26	3.85	3.85	1.18	1.18	2.39	2.39	4.25	4.25	4.49	4.49
Non-Durable Mfg.	2.09	2.09	2.91	3.26	3.73	3.86	1.88	1.89	3.18	3.29	6.55	6.55	10.00	10.00
Service Producing	-0.58	0.67	-0.35	0.42	-0.39	0.39	-0.49	0.55	-0.49	0.52	-0.46	0.46	0.41	0.41
Trade, Trans., & Utilities	-0.86	0.86	-2.09	2.09	-3.36	3.36	-0.98	1.03	-2.36	2.36	-3.27	3.27	-3.10	3.10
Wholesale Trade	-1.32	1.52	-3.34	3.55	-6.37	6.37	-1.29	1.67	-4.32	4.46	-6.04	6.04	-3.96	3.96
Retail Trade	-0.75	0.80	-1.61	1.61	-2.18	2.18	-0.91	1.06	-1.57	1.57	-1.98	1.98	-1.90	1.90
Information	3.01	3.01	4.81	5.27	7.52	7.52	3.26	3.26	6.51	6.51	10.33	10.33	13.00	13.00
Financial Activities	1.08	1.44	1.49	1.77	2.86	2.86	1.24	1.38	2.66	2.66	4.00	4.00	4.35	4.35
Profess. & Business Services	-1.03	2.64	0.00	1.75	1.79	2.57	-0.54	1.92	0.97	1.92	2.73	3.75	7.81	7.81
Educational & Health Services	-0.88	1.97	0.28	2.16	0.10	1.75	-0.58	1.60	-0.78	1.94	-1.01	1.01	0.46	0.46
Educational Services	-11.44	13.91	-11.45	12.75	-19.95	19.95	-9.99	12.75	-17.79	17.79	-26.25	26.25	-22.70	22.70
Health Care & Social Assist.	0.22	0.91	1.49	1.90	2.23	2.23	0.37	0.89	1.01	1.45	1.64	1.64	2.87	2.87
Leisure & Hospitality	-1.16	1.28	-1.10	1.24	-1.27	1.54	-1.30	1.38	-1.33	1.49	-2.45	2.45	-3.51	3.51
Other Services	-0.60	1.13	0.36	1.43	1.12	1.21	-0.27	0.91	0.17	0.77	1.55	1.55	3.60	3.60
Government	-0.26	0.61	0.00	0.24	-0.21	0.34	-0.31	0.36	-0.12	0.18	-0.19	0.19	-0.39	0.39
Federal Civilian	2.51	2.51	2.17	2.17	2.38	2.38	1.58	1.58	2.79	2.79	3.60	3.60	5.57	5.57
State & Local	-0.76	0.94	-0.39	0.39	-0.68	0.68	-0.65	0.65	-0.65	0.65	-0.88	0.88	-1.47	1.47
Labor Force	0.72	0.86	1.10	1.33	1.91	2.09	0.85	0.92	1.27	1.52	2.37	2.37	3.75	3.75
Employment	0.80	0.91	0.85	1.17	1.44	1.75	0.89	0.96	1.06	1.33	1.91	1.93	3.25	3.25
Unemployment Rate	-1.55	2.86	4.08	6.62	8.07	12.05	-0.97	2.39	3.15	6.44	7.47	11.72	8.73	11.96
Population (%)														
Total	0.17	0.27	0.18	0.33	0.24	0.54	0.17	0.30	0.21	0.45	0.35	0.81	0.09	0.95
Age 0-17	-0.19	0.96	-0.52	1.00	-0.64	0.92	-0.36	0.99	-0.57	0.85	-0.44	0.94	-0.71	1.26
Age 18-44	0.96	1.06	1.19	1.29	1.46	1.50	1.07	1.18	1.33	1.38	1.84	1.89	1.80	1.97
Age 45-64	-0.75	1.44	-0.87	1.50	-1.09	1.62	-0.81	1.46	-1.01	1.59	-1.42	1.73	-1.92	2.07
Age 65 and up	0.34	0.66	0.51	0.88	0.76	1.32	0.42	0.76	0.68	1.21	0.89	1.43	0.63	1.14
Nominal Personal Income (%)														
Total	-0.10	1.97	-0.30	2.09	-0.79	2.34	-0.11	2.03	-0.48	2.09	-0.88	2.78	-2.51	4.12
Wage & Salary	-0.24	0.97	-0.57	1.10	-0.85	2.09	-0.17	0.84	-0.60	1.42	-0.56	2.11	-1.10	2.66
Other Labor	-38.72	39.13	-41.30	41.41	-46.04	46.04	-38.92	39.28	-43.47	43.52	-48.55	48.55	-56.04	56.04
Proprietors'	3.07	8.08	2.32	8.16	0.72	6.89	2.75	7.82	1.89	7.80	-0.48	6.66	-6.13	7.91
Div., Int., Rent	-0.91	11.10	0.08	13.27	2.25	17.01	-0.72	11.45	1.00	15.03	3.26	18.57	9.06	20.95
Transfer	4.29	8.28	4.72	9.39	4.40	10.81	4.41	8.55	4.48	10.13	4.20	10.87	-0.46	10.10

*Positive numbers indicate that the forecast exceeds current estimates.
Negative numbers indicate that the forecast falls short of current estimates.
** Forecasts evaluated: Mid-Year Review: 1995, 1996, 1997, 1999, 2001, 2003, 2005; Long-Term Forecast 1998, 2000, 2002, 2004, 2006;
West Virginia Economic Outlook: 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006
NAICS employment forecasts begin in November 2003. BLS no longer publishes seasonally-adjusted
estimates for many employment sectors, so forecast differences cannot be computed.

TABLE 14
TRACKING EASTERN PANHANDLE REGION FORECASTS

	Percentage Differences					
	One Year Ahead		Two Years Ahead		Three Years Ahead	
	Avg. Diff.*	Avg. Abs. Diff.	Avg. Diff.*	Avg. Abs. Diff.	Avg. Diff.*	Avg. Abs. Diff.
Number of Forecasts**	10	10	9	9	8	8
	Nonfarm Employment by Industry (%)					
Total	-0.11	0.87	-0.50	1.84	-0.50	2.13
Goods Producing	-0.25	2.19	-3.46	3.46	-3.20	3.20
Nat. Res. & Mining	-3.15	6.12	-4.61	4.61	-12.80	12.80
Construction	0.24	5.51	-5.51	8.52	-10.24	10.24
Manufacturing	-0.50	2.25	-1.75	4.41	2.73	2.73
Service Producing	-0.28	0.51	-1.20	1.20	-2.15	2.15
Trade, Trans., Util.	-2.12	2.24	-4.88	4.88	-3.62	3.62
Information	-0.76	7.82	-2.63	6.22	-0.75	0.75
Financial Activities	-3.14	3.14	-8.47	8.47	-10.35	10.35
Prof. & Business Serv.	1.13	9.48	1.35	9.27	-4.32	4.32
Education & Health	1.60	1.80	0.14	1.62	-0.84	0.84
Leisure & Hospitality	2.18	2.27	3.29	3.29	-0.45	0.45
Other Services	-1.03	1.53	-1.40	1.40	-0.88	0.88
Government	-0.68	0.85	-0.82	2.53	-1.01	1.01
	Civilian Labor Force, Employment, and Unemployment (%)					
Labor Force	-1.87	2.13	-2.25	3.46	-2.84	4.24
Employment	-1.04	1.90	-1.80	3.09	-2.81	4.06
Unemployment Rate	-2.97	6.13	-0.40	12.50	0.43	20.61
	Population (%)					
Total Population	-1.19	1.20	-2.11	2.11	-3.17	3.18
	Nominal Personal Income (%)					
Total	-3.17	3.47	-3.00	3.04	-4.33	4.39
Wage and Salary	-1.46	1.87	-1.86	2.15	-3.03	3.25
Other Labor Income	-38.68	38.69	-42.84	42.84	-48.84	48.84
Proprietors' Income	-6.57	12.07	-10.41	19.03	-14.45	22.73
Dividends, Interest, Rent	-4.81	13.32	-2.80	18.90	-1.91	23.86
Transfer Income	5.92	11.95	6.26	13.14	6.31	13.65

Eastern Panhandle Region: Berkeley, Morgan, and Jefferson Counties

** Forecasts evaluated: 1996, 1997, 1998, 1999, 2001, 2002, 2003, 2004, 2005, 2006 Regional forecasts.
Employment forecasts by NAICS industry can only be evaluated for 2004, 2005, and 2006. Total employment forecast differences are evaluated for all forecasts.

National Outlook

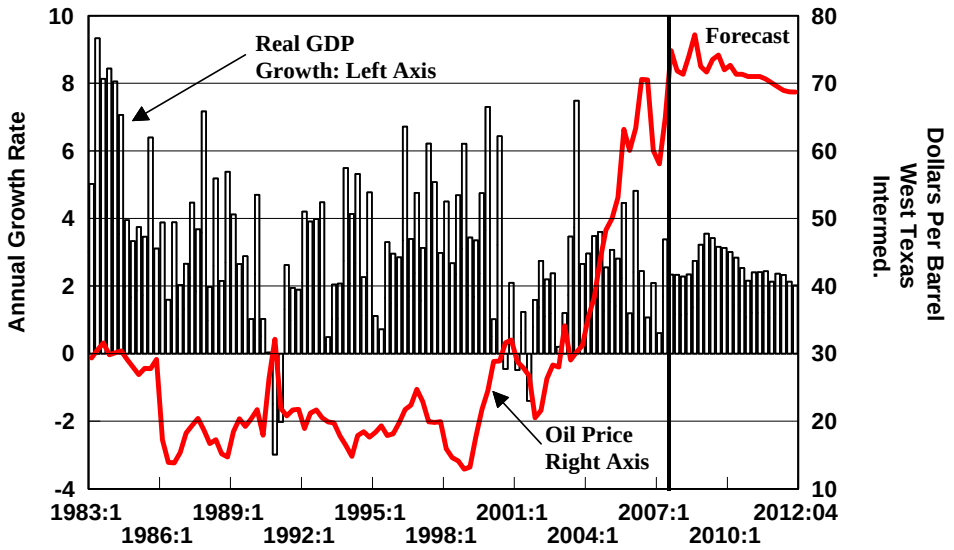
Scott Murdoch, Graduate Research Assistant
With George W. Hammond, Associate Director, BBER

Trade is an important component of any state economy. After all, no state produces all of the goods and services desired by its residents. Thus, state and regional economies are connected to the economic and political events taking place in the U.S. and around the world. This also implies that the future performance of any single state depends, at least to some extent, on the aggregate performance of all states and the world economy in general. Likewise, the forecast for the West Virginia economy depends on a forecast for the U.S. and world economies. This forecast, which comes from Global Insight, Inc. (a worldwide consulting and forecasting group), is summarized in this section.

Recent Developments

Real GDP grew by 2.9 percent during 2006 but then slowed to a growth rate of 0.6 percent during the first quarter of 2007. This slower growth rate was primarily due to a decrease in business inventories and an increase in the trade deficit. Real GDP growth rebounded to 3.4 percent during the second quarter of 2007. Figure 30 displays the West Texas Intermediate (WTI) oil price in addition to real GDP growth. The WTI oil prices during the past three years period have increase dramatically from $38 per barrel to $65 per barrel between the second quarter of 2004 and the second quarter of 2007.

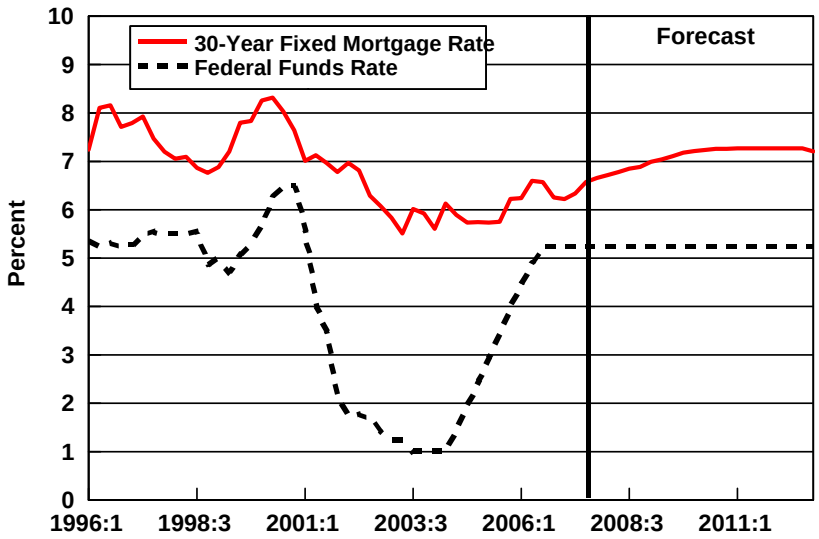
FIGURE 30
REAL GDP GROWTH REMAINS POSITIVE AS OIL PRICES RISE ABOVE $70 PER BARREL
U.S. FORECAST FROM GLOBAL INSIGHT AUGUST 2007



Nonfarm payroll employment grew by 1.9 percent during 2006, and declined slightly during the first quarter of 2007 attaining 1.5 percent growth. Employment growth while still positive, slowed further during the second quarter of 2007 reaching 1.3 percent. In August, nonfarm employment decreased by 4,000 jobs, which marked the first overall decline in jobs since August of 2003. The unemployment rate during 2006 was relatively low at 4.6 percent, and even with the slight decline in employment growth, the unemployment remained stable during the first and second quarter of 2007 at 4.5 percent. Conversely, inflation was relatively high during the second quarter of 2007 reaching 4.3 percent, however, this figure is significantly reduced to 1.4 percent when food and energy are not included.

The loss of employment during August in addition to the credit crunch caused the Federal Reserve to lower the federal funds rate by 50 basis points or by a half of percentage point. This is the first decline in the federal funds rate since the fourth quarter of 2003. Figure 31 displays the 30-year fixed mortgage rate in addition to the federal funds rate. As shown in the figure, the 30-year fixed mortgage rate has followed a similar pattern to federal funds rate with slightly more fluctuations. The mortgage rate reached approximately 6.3 percent during the second quarter of 2007.

FIGURE 31
THE FEDERAL FUNDS RATE STABILIZES
DURING THE FORECAST
U.S. FORECAST FROM GLOBAL INSIGHT AUGUST 2007

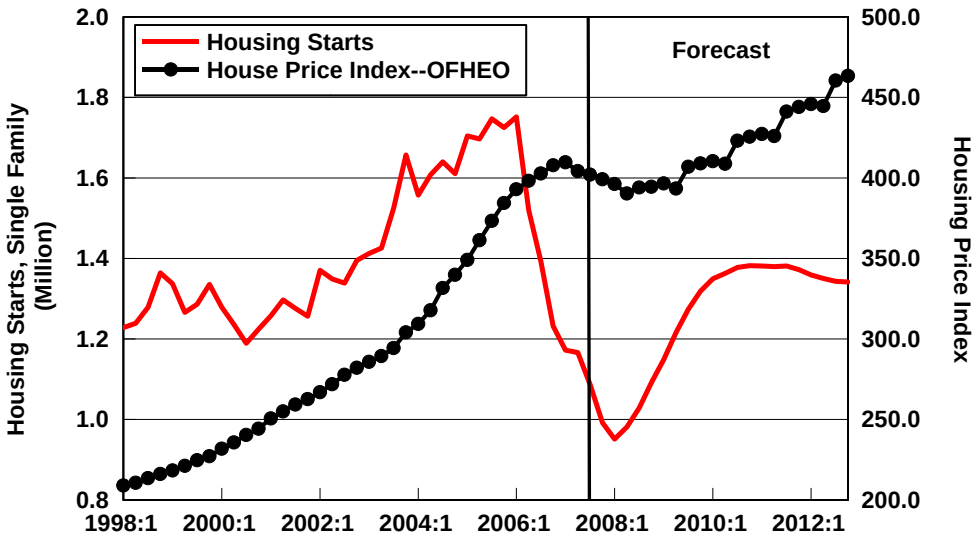


National Forecast

The national forecast provided by Global Insight is shown in Table 15. The table illustrates that real GDP growth is anticipated to decline from an average annual growth rate of 2.9 percent during 2006 to 1.9 percent during 2007. The decline in real GDP growth is due to the slowdown in the housing market and rising oil prices, which both put a constraint on consumer spending. The forecast calls for real GDP growth to reach 3.2 percent by 2009, and decline each year thereafter reaching an annual average growth rate of 2.3 percent by 2012.

House price growth is expected to decline by -1.9 percent during 2007 and decline even further during 2008 attaining -3.7 percent. After 2008, house price growth is expected to increase slowly reaching 4.0 percent by the end of the forecast period. Figure 32 displays the house price growth rate along with the OFHEO Housing Price Index (HPI). The forecast calls for the HPI to grow by 0.8 percent during 2007 and decline to -2.5 percent during 2008. Similar to house price growth the HPI growth after 2008 is expected to increase slowly through 2012 reaching an annual average growth rate of 4.4 percent. Referring back to Figure 31, the 30-year fixed mortgage rate is expected to increase slightly throughout the forecast period, peaking at 7.27 percent during 2011.

FIGURE 32
HOUSING MARKET CONTINUES TO COOL
U.S. FORECAST FROM GLOBAL INSIGHT AUGUST 2007



The housing market downturn and increasing energy prices are slowing consumer spending. According to Global Insight, real consumer spending growth is expected to decrease from 3.1 percent in 2006 to 2.6 percent in 2008. Real consumer spending growth is anticipated to fluctuate for the remainder of the forecast period, peaking at 3.1 percent during 2010. Conversely, the U.S. demonstrated a positive saving rate of 0.4 percent during 2006, and the forecast calls for the saving rate to steadily increase throughout the forecast period attaining 2.7 percent in 2012.

Referring back to Figure 30, the WTI oil price is expected to reach approximately $73.8 per barrel during 2008. The WTI oil price is expected to decrease slightly thereafter reaching approximately $69.0 per barrel during 2012.

Figure 33 displays the current account deficit as a percent of GDP compared with value of the U.S. dollar with major trading partners. The annual average current account deficit as a percentage of GDP was approximately 6.2 percent in 2006, which is significantly higher than the 3.8 percent demonstrated in 2001. The current account deficit is expected to decline every year throughout the forecast attaining 4.3 percent during 2012. The value of the U.S. dollar with major trading partners is expected to decrease from 0.812 in 2006 to 0.776 in 2007. The forecast calls for the value of the U.S. dollar to continue to devalue through 2009 reaching 0.725. Given the forecast, during the 2006 to 2009 period the average annual growth rate in the devaluation of the dollar will be 3.7 percent. This phenomenon can also be seen by looking at the real export growth versus real import growth. For every year during the forecast, real export growth is anticipated to outperform real import growth. The forecast calls for exports to grow by 6.8 percent during 2007 while imports only grow by 2.2 percent. The peak of export growth is anticipated in 2008 at 9.0 percent.

FIGURE 33

DECLINING DOLLAR CONTRIBUTES TO SMALLER TRADE DEFICIT

U.S. FORECAST FROM GLOBAL INSIGHT AUGUST 2007

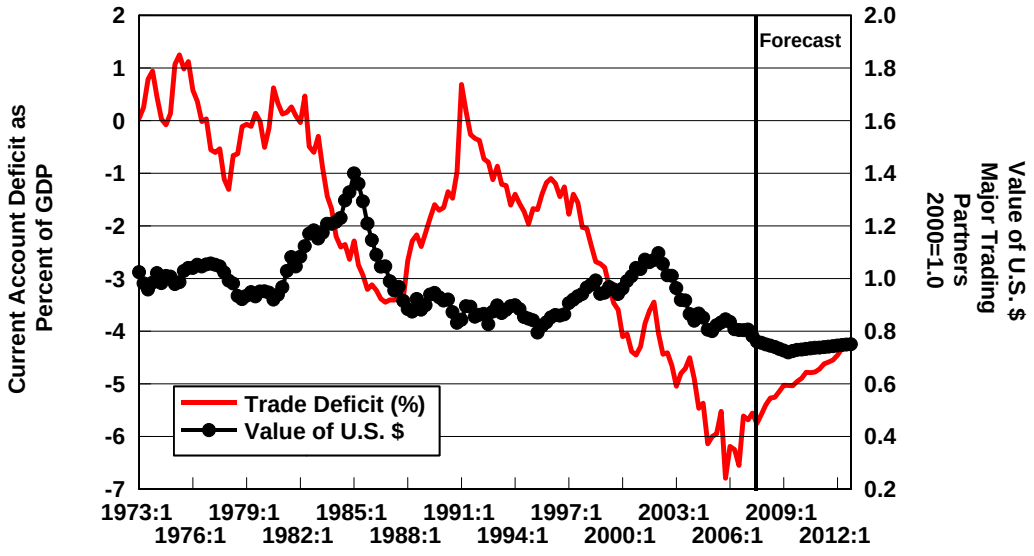


TABLE 15
U.S. FORECAST
GLOBAL INSIGHT AUGUST 2007

	Years						
	Actual	**Forecast**					
	2006	2007	2008	2009	2010	2011	2012
	Annual Percent Change						
Real Gross Domestic Product	2.9	1.9	2.5	3.2	2.9	2.4	2.3
Industrial Production	4.0	1.7	2.1	2.7	2.2	1.7	1.8
Nonfarm Employment	1.9	1.4	1.1	1.5	1.4	0.9	0.7
Nominal Personal Income	6.6	6.4	5.2	5.6	5.5	5.0	4.9
Personal Consumption Deflator	2.8	2.3	1.9	1.9	1.8	1.9	1.9
Real Export Growth (GDP Basis)	8.4	6.8	9.0	8.5	7.3	6.3	6.6
Real Import Growth (GDP Basis)	5.9	2.2	4.3	5.8	5.9	5.3	4.7
Housing Price Growth Average, Existing Houses	1.3	-1.9	-3.7	2.3	3.5	3.9	4.0
	Percent						
Unemployment Rate	4.6	4.6	4.8	4.6	4.4	4.4	4.6
Federal Funds Rate	4.96	5.25	5.25	5.25	5.25	5.25	5.25
30-Year Fixed Mortgage Rate	6.42	6.45	6.81	7.08	7.24	7.27	7.25
	Billions of Dollars (FY)						
Federal Budget Surplus (Unified Basis)	-248	-175	-227	-267	-256	-252	-265
	Key Prices						
Trd.Wtd. Value of U.S. Dollar vs Major Trading Partners (2000=1.000)	0.812	0.776	0.742	0.725	0.733	0.740	0.748
Oil - West Texas Intermediate ($ per barrel)	66.12	67.43	73.75	72.83	71.58	70.67	68.97

Appendix

General Information And Data Sources

The West Virginia forecast uses seasonally adjusted quarterly data and most series are forecast from the second quarter of 2007 to the fourth quarter of 2012.

Covered employment by industry data come from the U.S. Bureau of Labor Statistics and Research, Information and Analysis Division of Workforce West Virginia. It is seasonally adjusted by the WVU BBER. This data is current through the first quarter of 2007 and is forecast from the second quarter of 2007 through 2012.

Household employment, labor force, and unemployment rate data for West Virginia are the average of monthly seasonally adjusted estimates supplied by the Research, Information and Analysis Division, Workforce West Virginia. All employment data are forecast from the third quarter of 2007 to the fourth quarter of 2012.

Historical seasonally adjusted national employment data used in most tables and figures can be found at the Bureau of Labor Statistics web site <http://www.bls.gov/>. Workforce West Virginia offers a wealth of labor market data for the state and its regions online at <http://www.workforcewv.org>

Seasonally adjusted historical nominal personal income data for West Virginia and the U.S. from 1969 to the second quarter of 2007 come from Personal Income by Major Source, Regional Economic Information System, Bureau of Economic Analysis. These estimates are also available free on the Internet through the Bureau of Economic Analysis web site <http://www.bea.doc.gov/>. West Virginia data are forecast from the third quarter of 2006 through the fourth quarter of 2012.

Quarterly West Virginia population estimates are derived from annual data for the 1969 to 2006 period. These data are available through the Bureau of the Census web site at<http://www.census.gov/>. West Virginia population is forecast from the first quarter of 2007 to the fourth quarter of 2012 using a modified single-year age group cohort-component model embedded within the econometric model.

All U.S. forecast data come from the Review of the U.S. Economy, August 2007, Global Insight. All forecast data for West Virginia, except where otherwise noted, come from the West Virginia State Econometric Model, Bureau of Business and Economic Research, West Virginia University.

Frequently Used Terms

Annual Growth Rates between consecutive years are calculated as:

Annual Growth Rate in Percent

$$= \left[\left(\frac{X_t}{X_{t-1}} \right) - 1 \right] \times 100,$$

where X denotes the time series for which the growth rate is being calculated, t denotes the reference time period and t-1 denotes the previous time period.

Civilian Labor Force includes noninstitutionalized civilian residents, aged 16 and older, who are either employed or unemployed.

Consumer Price Index (CPI) is an index of retail prices of a representative basket of goods and services purchased by consumers. Percentage change is commonly used as a measure of inflation. Incorrectly referred to as cost-of-living index. The Consumer Price Index used here is for all urban consumers.

Dividends, Interest, and Rent is income from the three sources mentioned. Dividend income is the dividend income received by individuals. Interest income is the monetary interest received by individuals. Rental income is the income from the rental of real property and royalties. In 2005, income from dividends, interest, and rent accounted for 12.5 percent of West Virginia total personal income.

Federal Funds Rate is the interest rate on Federal Funds, which are reserves borrowed and lent by member institutions to one another, usually overnight. Reserves are deposits at member institutions (e.g. commercial banks, savings and loans, and credit unions) which have not been converted into loans to customers. Member institutions must hold a fraction of deposits as reserves.

Gross Domestic Product (GDP) is the market value of all final goods and services produced by labor and property located in the United States.

Gross State Product (GSP) is the market value of goods and services produced by labor and property located in a state. For more, see the Winter 1998 West Virginia Business and Economic Review

Industrial Production is an index which measures output from manufacturing, mining, and electric and gas utilities industries. The industrial production index's base year is 1992=100.

Nonfarm Payroll Employment includes persons on establishment payrolls who received pay for any part of the pay period which includes the 12th of the month. Nonfarm payroll employment does not include proprietors, the self-employed, unpaid volunteer or family workers, farm workers, domestic workers, or military personnel. Nonfarm payroll employment is a count of jobs not people

Other Labor Income includes payments by employers to private benefit plans for employees and employer contributions for social insurance. Private benefit plans include pension and profit-sharing plans, private group health and life insurance, supplemental unemployment benefit plans, and payments by employers to privately administered workers' compensation plans. In 2005, other labor income accounted for 14.7 percent of West Virginia total personal income.

Personal Income is income received by residents before income taxes. It includes wages and salaries, proprietors' income, other labor income, dividends, interest, rental income, and transfer payments. For more, see the Spring 1997 West Virginia Business and Economic Review

Population is the number of persons whose usual place of residence was within the state (nation) at the time the census was taken. It is also referred to as resident population. Persons in the military or institutionalized are counted where the military base or institution is located, as long as that is within the U.S.

Proprietors' Income is the income of sole proprietorships and partnerships and of tax-exempt cooperatives. A sole proprietorship is an unincorporated business owned by a person. A partnership is an unincorporated business with two or more partners. In 2005, proprietors' income accounted for 7.0 percent of West Virginia total personal income.

Average Annual Growth Rates are compound annual growth rates. For annual data the formula is:

Average Annual Growth Rate in percent

$$= \left[\left(\frac{X_{t+N}}{X_t} \right)^{1/N} - 1 \right] \times 100,$$

where X denotes the time series for which the growth rate is being calculated, t denotes the beginning year and N denotes the number of years over which the growth rate is calculated.

Real (Constant) Dollar figures have been adjusted for inflation. Using real figures eliminates the year-to-year changes in price and gives a clearer picture of the true changes in purchasing power, production, etc. Real GDP (or GSP) gives a more accurate measure of increased production than nominal GDP, which is given at current price levels.

Resident Employment includes all those employed for pay during the week including the 12th of the month, or who worked more than 15 hours unpaid in a family business, and those who were temporarily absent from their regular job. A person may only be counted as employed once using this measure.

Seasonal Adjustment is a statistical procedure designed to remove regularly occurring seasonal fluctuations in time series data. It is designed to account for the fact that some economic time series tend to rise (or fall) in the same month or quarter every year. Typical examples are strong gains in retail sales (and retail trade employment) before Christmas and gains in construction employment in the spring followed by similar losses in the winter.

Ten-Year Treasury Note Yield is the yield on a ten-year treasury note. The yield (interest rate) is expressed as an annualized rate.

Transfer Income is income not related to participation in current production. It includes income from Old Age Survivors and Disability Insurance (OASDI), Medicare, Medicaid, unemployment and workers' compensation, Aid to Families with Dependent Children, and food stamps, in addition to various other sources. In 2005, transfer income accounted for 26.3 percent of West Virginia total personal income.

Unemployment Rate is the percent of the civilian labor force that is unemployed. The civilian labor force is comprised of noninstitutionalized persons 16 years of age or over who are employed or unemployed. A resident is considered to be unemployed for the month if that person is at least 16 years old and is not currently employed but is available and actively looking for work during the survey week (the week including the 12th of the month).

Wage and Salary Income is payments to employees for participation in current production. They are measured before deductions for Social Security and union dues and reflect the wages and salaries disbursed, not necessarily earned during the period. In 2005, wages and salaries accounted for 48.6 percent of West Virginia total personal income.